

in stream
in time
with Capper-Neill
in site



CONTINENTAL SELLING PRICES: AUSTRIA Sch.13; BELGIUM Fr.22; DENMARK Kr.3; FRANCE Fr.2.50; GERMANY DM.1.70; ITALY L.400; NETHERLANDS Fl.1.75; NORWAY Kr.3; PORTUGAL Esc.17.50; SPAIN Pes.15; SWEDEN Kr.2.75; SWITZERLAND Fr.1.70.

NEWS SUMMARY

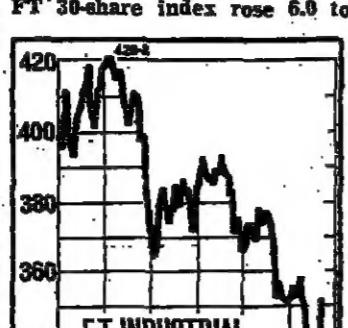
GENERAL

to fast
uclear
actor
ecision

BUSINESS

Equities
up 6.0;
Gilts
improve

• EQUITIES advanced further on the seamen's pay agreement. FT 30-share index rose 6.0 to 102.0.



• 351.8, a three-day gain of 17.3. Gold Mines index fell 0.7 to 121.7.

• GILTS medium improved to 100; longs to 8, with the short "tap" exhausted. Government Securities Index put on 0.27 to 60.14.

• GOLD lost 1/4 to \$118.

• STERLING lost 10 points to 31.760. Weighted average depreciation widened to a record 42.4 per cent. (42.3). Dollar's losses only if the units rose by 2.90 per cent.

• WALL STREET was up 5.4 at 1020.03 near the close.

• WORLD BANK reports that external public debt of \$6 developing countries increased by 24.2 per cent. in 1974, reflecting inflation and worsening terms of trade.

Page 6

• U.S. TV manufacturers urged the Government International Trade Commission to recommend imposing quotas on Japanese colour TV imports or their industry would face "extinction".

Page 8

• TREASURY has eased exchange control rules for business men travelling abroad. Page 5

• £35m. contract

for John Brown

• JOHN BROWN Engineering has won a £35m. contract to supply gas turbine generating sets for an aluminium smelter project in Dubai.

Page 18

• BRITISH LEYLAND plans large-scale investment in a new commercial vehicle assembly unit at Leyland, Lancs.

Page 18

• RAIL UNION leaders are to meet Mr. Peter Parker, British Rail's new chairman, to-night to discuss the industry's long-term future and immediate policy on fare increases. Page 18

• TUC GENERAL council meeting proposed restrictions on overtime as a means of tackling the continuing unemployment problem.

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• THOMAS COOK is fixing the charges of its package tours up to one year ahead for those prepared to pay in full when booking. Page 8

• COMPANIES

• BOOKER McCONNELL first half pre-tax profits advanced to £6.7m. (£5.79m.) on turnover of £152.2m. (£124.3m.). Page 22 and Lex

• LAPORTE INDUSTRIES (Holdings) made a pre-tax profit of £5.3m. (£1.24m.) on sales of £39.9m. (£29.1m.) for the 26 weeks to June 27. Page 21 and Lex

• RIO TINTO-ZINC pre-tax profits rose to £118.8m. (£76.7m.) in the half-year to June 30, on sales of £765.5m. (£539.6m.). Page 24 and Lex

it trust 'stag' acquitted

lyton hospital porter was arrested at the Old Bailey on charges of trying to deceive four trustees over transactions in £60 worth of certificates. A man was said to have had £16,000 in his bank account. He is intending to complete the deal within the next 10 years. The Government should say fast breeder reactor as a full-scale experiment, either approves or opposes the deal.

report lays stress upon the risk of terrorist hijacking planes and making "a crude effective weapon" and warns about the problem of radioactive waste. Back and Page 28

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Labour party myth makers

BY ANTHONY HARRIS

WHEN Mr. Adrian Ham recently advised as special adviser to the Chancellor of the Exchequer, he had some eloquent things to say about the low morale of the Treasury. He said it had run out of answers to our problems.

He did not go on to say that the Treasury not only mismanages the economy, but misrepresents the facts. But that, it turns out, is what Mr. Ham—who must really have had a very unhappy time in Great George Street—privately believes. In one of those widely circulated “confidential” documents in which the Labour party argues its policies, Mr. Ham accuses the Treasury of fudging the figures on overseas investment.

Never wrong

The subject matter will surprise nobody who takes any interest in the Labour Party's policies. The party in Transport House (unlike the one in Government) has a great advantage over the Treasury: many of its answers to our problems (and here indeed there is an answer to every problem) have never been tried out; so they can never be proved wrong, and need never be revised. One of the longest-standing Labour Party myths is that Britain is bleeding to death by exporting capital which ought to be kept at home.

The Treasury answer to this (which is to show that the whole of British overseas investment is financed overseas) with a little to spare for the reserves, was published by the Treasury itself last week; but essentially the same arguments were put before the Party's finance and economic sub-committee in April by Mr. Denell Davies, a junior Treasury Minister, so that he is the object of Mr. Ham's refutation.

There is a lot of very technical and confusing stuff about the definitions of various numbers in the balance of payments statistics; and I have little doubt that the sub-committee, faced with this obscure row between two people who are supposed to know the inside story, will continue to think whatever it thought before.

However, for the benefit of any

member of the committee who may want actually to understand the question, it seems worth drawing attention to some of the facts.

First, while the Treasury is certainly right when it argues that British investment overseas does not actually involve any drain from the reserves, Mr. Ham is right when he calls this a very odd sort of argument. One might as well argue that a person who works without pay does not actually lose any money, because he does not pay any to his employer.

On the other hand, Mr. Ham is just as certainly wrong when he argues that the cost of investment overseas can be measured simply by adding the unremitting profits of foreign subsidiaries of British companies, a matter of £1.5bn. in 1974, for example. Mr. Ham was advising the Chancellor when he made his historic and absolutely necessary concession to British companies on stock appreciation. He should surely know that reported profits, especially at a time of rapid inflation, are often tied up in physical assets. They are not available in cash to be repatriated, even if local laws allow it. And Mr. Ham is equally short-sighted when he fails even to mention the trade and income dividend income generated by the investment which is done.

Uninspiring

However, the real fascination of the Ham-Davies row is that neither side seems to realise for a moment that the issues they have raised are totally beside the point. Investment inside Britain is not inhibited by lack of finance, but by poor prospective returns on any investment which is made. The perennial weakness of the pound is not due to a weak trading account (which was until quite recently in long-run balance) but to high domestic inflation and a weak balance sheet. Britain, as an overseas investor, is in the position of an under-capitalised bank with a distinctly uninspiring Board of Directors. And none of Labour's proposals will change that.

Wolfson grant for Aston

COST-CUTTING ultrasonic production techniques developed at the University of Aston in Birmingham will be applied to export earning industries as a result of a £100,000 grant from the Wolfson Foundation.

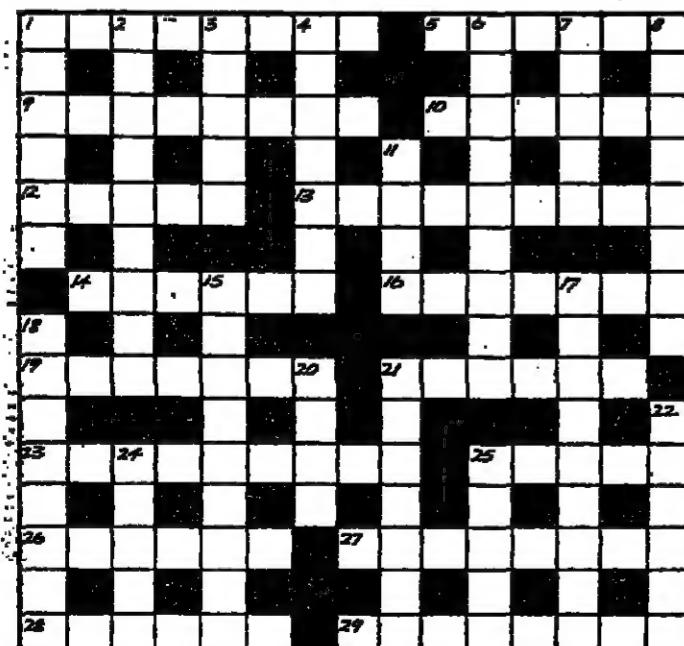
TV Radio

† Indicates programmes in black and white

BBC 1

7.05-7.55 a.m. Open University (UHF only). 8.41 For Schools, Colleges. 12.35 p.m. On the Move. 1.45 Europe. 2.00 You and Me. 2.14 For Schools, Colleges. 2.33 Regional News (except London). 3.55 Play School. 4.20 Astronaut. 4.25 Jackanory. 4.40 Blue Peter. 5.05 John Craven's Weather/Regional News

F.T. CROSSWORD PUZZLE No. 3,190



SOLUTION TO PUZZLE No. 3,189

DEINSE HANGER
T A C M A U
TANNERY FILLING
R I A F S I N
B Y A L L M E A N S A I D
S M A L L C O N V E R G E
T E Y O N I
HIGHBROW MACON
C O O I H
S K Y T F A R A N D A M A Y
A S I K A B P M
S T O P K E Y S T A L K E R
I U N O E E
T I R A D E G R A T E R

RACING

BY DOMINIC WIGAN

Bruni for Cumberland Lodge

WITH the soft ground in his favour and only second-class opposition to beat, Bruni must win this afternoon's Cumberland Lodge Stakes at Ascot impressively if he is to be seriously considered for the “Arc” in ten days.

I feel confident that the task will not prove beyond the Fonthill grey.

A length runner-up to Europe's champion middle-distance filly, Pawnee, in the King George VI and Queen Elizabeth Diamond Stakes here on his last appearance, Bruni meets nothing approaching her calibre in today's nine-runner meeting.

I hope to see him forging clear of his opponents, best of whom may be *Illustrous Prince*, early in the home straight and winning in the style reminiscent of his St. Leger victory, in which he won without pay.

Carriage Way, a two-year-old

stable companion to Bruni and a half-brother to the speedy Trigamy, is sure to be strongly supported for the Clarence House Stakes after his recent

ASCOT
2.00 Miss Fibre ***
2.30 Norfolk Giant ***
3.05 Three Legs ***
3.40 Brum ***
4.10 Trustful
4.40 Brave Lass
5.10 Gemini Miss

BEVERLEY
2.45 Pontresina ***
3.15 Prince Henham
3.45 Whency
4.15 Tuu
4.45 Red Quiver
5.15 Acquittal

PERTH
3.30 Pirate Gold
4.30 Robin John

neck victory over Vincent O'Brien's Rachmaninoff in the Riberia Stakes at Doncaster on St. Leger Day.

Two other interesting races on today's seven-race programme, which is covered as is the rest of the meeting by BBC cameras, are the Clarence House Stakes and the Diadem Stakes.

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Three Legs, who has put up

some top-class performances

since joining Luca Cumani's

Newmarket stable after a highly

successful two-year-old and

three-year-old career in Italy,

will appreciate the going, and

can get the better of the rejuvenated Boldboy in the Diadem

Stakes two months ago.

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Three Legs, who has put up

Serkin, Jacobs, Ax

by DOMINIC GILL

• Piano sonata in B flat
Rudolf Serkin. CBS
(£1.99 until Sept. 30,
£2.99)

• Vingt regards sur
Jésus. La Roussette
label. Peter Serkin. RCA
0759 (3-disc box. £5.97)

• Etudes Books I and II
Jacobs. Nonesuch H-7132
33.

• Recital. Emanuel Ax
ARL 1869 (£2.99)

te no apology for return
in this month with
handful of piano records
such compelling new
as these are. Too
in a class of its own
last month about the
of the 1842 RCA Victor
by Artur Schnabel of
van's sonatas op. 108 and
to those of the earlier
cycle, recorded in
1932 and 1937, deeply
paradoxically, selfless
performances which
are unmistakably "right",
seemed to lead the listener
a way more directly and
closely to the composer,
most any others on record
know.

at the names of Serkin
lomen also came to mind,
their best share with
el something of the same
to express, transcending
anner of interpretative
and technical imperfec
in the scherzo, too alive
vision of Beethoven's with point-making, there are
so profoundly spiritual, properly Beethovenian accents
timeless. This new per
by Serkin of Schubert's most Beethovenian

az Festival—2

strange but exciting

by WILLIAM WEAVER



The final scene from 'Shabat'

the culture-greedy the
Festival of Arts can be
of endurance. If your
of energy is unlimited
an start the day with a
at 9 a.m. and go to bed at
next day, after the late
concerts (usually of traditional
Iranian music) at the
the cool gardens
the tomb of the great
poet Hafez. In between,
you can see two or
other things: a play,
a recital. So the ordinary
slacker or the jet-lagged
tends to resign himself. It
possible to see everything,
make a selection.

ant-garde music is much in
at Shiraz. I missed the
ican Brass Quintet (playing
it Carter) and the Polish
2 Ensemble (playing Cage,
others), not because I
unwilling to hear them, but
use I am sure that I—or
other reporter for this page
I catch up with them at a
pean festival. Instead I went
the Tokk Ensemble from
This gifted group con
Western instruments (piano, percussion) with
traditional Japanese shakuhachi and biwa. Similarly, it
rhythms alternate classical
of Japan with new works,
act, on the night I heard
the Tokk presented three
premieres, punctuated by
of the Battle of
No Ura, a traditional work
biwa and voice, effectively
prettied by Kimiko Tsuruta.
is a pity that there were
programmatic notes to eluct
the significance of the work
were notes, however, on
few pieces and the Japanese
that they have mastered
decidental art of composer's
Here is Yoshiro Iriko on
(characteristically entitled)
"I intend in this piece
organise the various sounds
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changing whole. It is not an
sition of Chaos-Cosmos
we hear a sound, it may
(or he heard) at some point
at Chaos but it includes
recently and order that changes
Chaos to Cosmos and vice
The place was brief, tact
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to be heard at any cont
music festival any
are interesting was Music for
process by Toshi Ichigai, written for shakuhachi,
Keyboard, percussion, and

two flower-arrangers. I am afraid
the audience followed the
demonstration of ikebana with
more interest than they heard
the delicate accompaniment
(which ended first) allowing the
chief flower-arranger to continue
a silent solo, winding her fierce
secateurs and bending gladiol
to her will).

Japan was also represented in
the spoken theatre sector of the
festival, by Shuji Terayama and his
The Ship of Folly, staged in
the Saray-e Moosir courtyard
in the bazaar. Like Grotesque
Robert Wilson, and Peter Brook,
Terayama is a familiar figure in
Shiraz (where three programmes
of his films were also shown this
year). Nevertheless, Iranian
hospitality did not extend to
acceptance of his madhouse play.
Apparently the local critics were
hostile. Actually, The Ship of
Folly was tame than I had
expected (at a previous Terayama
show in Shiraz a member
of the audience caught on fire).

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are interesting was Music for
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real talent. Again, the audience
confirmed my impression, laughing
at scene after scene. Set
in a slum courtyard, Shabat is
the story of the feckless Hashem
(played with infectious humour
and bedraggled appeal by
Khosrow Shayesteh). This semi-nomad sheep
herd, deaf and dumb, had a
vision one day and, in consequence,
created a weird garden of stones, tied to sticks and
trees. His wife (also played by
himself) tried to exploit the
garden, making it into a place
of prayer and sacrifice. But her
ruse was discovered and in the
end the garden was destroyed.

So much for the facts. Kimiavi
goes far beyond them. First to
invent the totally convincing, it
alien world, and then to portray
with admirable subtlety—the
vast gap between generations in
modern Iran, between the
illiterate father and his motorcycle-riding son. The photograph
by Fereidoun Ghavamian,
is also noteworthy.

Now aged ten, the Festival of
Arts can look back on a distinguished past and forward to a
promising future. It has created
an alert Iranian public, which
obviously also includes many
artsier, eager to apply—with
originality and individuality—
some of the lessons that this
festival, so wide and profound
in scope, generously provides.

The result, especially in final
Allegro, was to expose some less
than perfectly meshed ensemble,
and to rob the whole work of
that special Berlioz-like melodic
chastity that, in the finest readings,
coexists with bombast and
sentimentality. Martin Cooper

The Entertainment Guide is on Page 25

marks of avant-garde to
the audience followed the
demonstration of ikebana with
more interest than they heard
the delicate accompaniment
(which ended first) allowing the
chief flower-arranger to continue
a silent solo, winding her fierce
secateurs and bending gladiol
to her will).

Japan was also represented in
the spoken theatre sector of the
festival, by Shuji Terayama and his
The Ship of Folly, staged in
the Saray-e Moosir courtyard
in the bazaar. Like Grotesque
Robert Wilson, and Peter Brook,
Terayama is a familiar figure in
Shiraz (where three programmes
of his films were also shown this
year). Nevertheless, Iranian
hospitality did not extend to
acceptance of his madhouse play.
Apparently the local critics were
hostile. Actually, The Ship of
Folly was tame than I had
expected (at a previous Terayama
show in Shiraz a member
of the audience caught on fire).

"I intend in this piece
organise the various sounds
iano and percussion as an
changing whole. It is not an
sition of Chaos-Cosmos
we hear a sound, it may
(or he heard) at some point
at Chaos but it includes
recently and order that changes
Chaos to Cosmos and vice
The place was brief, tact
but had little to distinguish
from its Western counter
to be heard at any cont
music festival any
are interesting was Music for
process by Toshi Ichigai, written for shakuhachi,
Keyboard, percussion, and

real talent. Again, the audience
confirmed my impression, laughing
at scene after scene. Set
in a slum courtyard, Shabat is
the story of the feckless Hashem
(played with infectious humour
and bedraggled appeal by
Khosrow Shayesteh). This semi-nomad sheep
herd, deaf and dumb, had a
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stival Hall

Beethoven and Saint-Saëns

by MAX LOPPERT

second London concert in the concert has these days
Paris Orchestra under its
ector, Daniel Barenboim, was
enjoyable programme of symphonies—Beethoven's Seventh and
Saint-Saëns' Third. The performance
was of both were filled with
splitting musicality, vital
exciting detail, and also a
quantity of untidy phrases, to
distinguish in tone-colour, its
unfamiliarity with the
unwelcoming acoustics of
Festival Hall. Neither proved
be interpretations of unimpeachable
splendour or notable
lightfulness; but of the
acter, well-defined, tactful
telling of the orchestra there
ample evidence.

The Saint-Saëns symphony,
come as a comparative rarity

Can you name the major
construction company that
achieved record profits
in 1975 for the
9th consecutive year with a
turnover of £411 million?

ANSWER PAGE 9.

Record, book and tour for Graham Collier

Jazz composer/bandleader
Graham Collier is set for a busy
autumn which will see the release
of his new album, *New Conditions*,
the publication of his
biography of Cleo Laine and John
Dankworth and, unlike many
biographies, does not solely praise
the subjects but presents a
critical, individual analysis of
their work and talent.

New Conditions was written
especially for the 12-piece band
which made its first appearance
in France in January this year.
The album, produced with financial
assistance from the Arts Council of Great Britain, will be
available prior to the tour.

Clef and John, published this
week by Quartet Books, covers
the musical rise to prominence
of Cleo Laine and John
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The Graham Collier tour, also
being called *New Conditions*, is
part of the Arts Council's Contemporary
Music Network programme. It starts at Horsham
on October 15 and finishes in
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available prior to the tour.
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Indonesia uncovers plot to overthrow President

JAKARTA, Sept. 22.

THE INDONESIAN Government announced to-day it had discovered a plot to overthrow President Suharto and replace the past two months to overthrow the President. The documents blamed the present Government for lowering morale among the people, leading to a sense of humiliation which posed a danger to the state and national integrity.

They said there was resentment in the community which could split the unity of the nation, and concluded that President Suharto's leadership was a failure.

A number of statements recently from prominent Indonesians have called for an end to President Suharto. Reuter

Suharto denies rumours

BY HAMISH MACDONALD

JAKARTA, Sept. 21.

PRESIDENT SUHARTO to-day opened up the taboo subject of Indonesian politics by hitting out at widespread rumours that his Government has given members of his family special favours in their business activities.

In a letter to all Department heads made public to-day, the President said he had never given and never would give "special treatment" to his wife's relatives or people claiming to be relatives.

He ordered all Ministers and heads of Government bodies to resist and immediately report any pressure from such quarters, and to publicise his order.

President Suharto said: "Irresponsible people" and the local and foreign Press had done much to create an impression that he had given favours to relatives to enable them to take "large and easy profits" in their businesses.

He said a "feeling of injustice" had arisen within the com-

munity. If the rumours were allowed to continue, unrest would be created, officials undermined, and the Government's authority sullied.

The President's statement is seen here as a sign that the new attention given to the corruption problem following the financial crisis of the State oil enterprise, Pertamina, has stirred up long-existent misgivings about the central leadership.

Members of the Presidential couple's families are prominent in a wide range of fairly new Indonesian ventures, including cement-making, flour-milling, air cargo, coke, importing, film distributing, hotels, and cattle-raising.

In the past, the President has reacted angrily to allegations by some special opinion groups that special concessions, such as import monopolies, have been given to these firms because of the family link.

WORLD BANK'S ANNUAL REPORT

Third World debt grows

BY TONY HAWKINS

THE EXTERNAL public debt of 88 developing countries increased 24.2 per cent during 1974/75 reflecting increased current account deficits caused by worsening terms of trade, reduced demand for exports, and inflation, says the annual report of the World Bank published today.

The report shows this to be the largest such increase in developing countries' external debt experienced in the 1967/74 period, and compares with a rise of 20.4 per cent in 1973, and 18.3 per cent in 1972.

In 1974—the most recent year for which reliable figures are available—total debts outstanding for these 88 countries amounted to \$151.4bn. The World Bank says it was access to international capital markets which made substantial external payments deficits possible for the developing countries—other than the poorest ones. An increasing number found themselves considered sufficiently credit-worthy to obtain loans from private financial institutions, and in 1974 and 1975 a growing number of such countries borrowed "substantial sums" from the international capital market.

The Bank says that where this increase in debt is compared with other relevant magnitudes, such as changes in imports or exports, the rise, while large, is a good deal less alarming. The report explains that debt service on debt incurred in earlier years is less costly to the debtor if export prices improve. But the

position for many developing countries deteriorated with the terms of trade declined, imposing "difficult adjustments" on borrowers during 1975. These difficulties are only now beginning to be mitigated somewhat by the upturn in economic activity in the industrialised countries.

The World Bank report says: "After increasing their borrowings, the total bank and inter-

national aid flows from the advanced countries, the report says that in 1974 Sweden became the first country in the Development Assistance Committee (which comprises the Western European nations, the U.S. and Canada, Japan, Australia and New Zealand), to provide the equivalent of 7 per cent of its GNP in the form of official development assistance. In 1975 both Sweden and the Netherlands exceeded this percentage.

Total flows of all resources, including export credits and direct portfolio investment by DAC countries, rose 40 per cent in the year to a record \$87.6bn. If grants by private agencies are included, then for the first time, the 1 per cent of GNP target for all flows—private and official—has been reached.

However, three oil exporters—Indonesia, Algeria and Gabon—increased their external debt during 1974 by more than \$3bn, although this was offset to some extent by debt reductions on the part of Ecuador, Iran, Iraq and Venezuela.

A feature of this situation was the growth in importance of private lenders to the OPEC and higher-income developing coun-

tries. At the end of 1974, 45.9 per cent of the foreign debt of these countries was owed to private lenders, compared with 42 per cent in 1973. Lending by banks and private institutions was growing more rapidly in 1975, than that by the official agencies or in the form of bilateral credits.

Commenting on aid flows from the advanced countries, the report says that in 1974 Sweden became the first country in the Development Assistance Committee (which comprises the Western European nations, the U.S. and Canada, Japan, Australia and New Zealand), to provide the equivalent of 7 per cent of its GNP in the form of official development assistance. In 1975 both Sweden and the Netherlands exceeded this percentage.

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WORLD TRADE NEWS

British assurance given on nuclear power exports

BY DAVID FISHLOCK, SCIENCE EDITOR

BRITAIN would export nuclear equipment and materials to countries willing to permit access to safeguard inspection of the International Atomic Energy Agency. The agency's general conference was assured yesterday, in a formal declaration of its policy on the inspection of nuclear explosives.

Britain would also require assurances that whatever was being exported would not be used to make a nuclear explosive device, would be securely protected against theft, and would be transferred to a third party except on equally strict non-proliferation terms.

Mr. Arnold Allen of the U.K. Atomic Energy Authority, the British delegate, told the conference that Britain continued to attach the greatest possible importance to the non-proliferation Treaty as the "best available means for preventing the spread of nuclear explosives."

But it is recognised that some countries, although entirely opposed to nuclear proliferation, have strong political objections to the terms of the NPT. The U.K. co-sponsored an attempt to persuade those countries to open their nuclear fuel factories to inspection by the agency. In his opening address to the conference, reported yesterday, Sigvard Eklund, director-general of IAEA, called upon the series of meetings in London by the nuclear exporting nations, that an absolute condition of the contract that the receiving cycle safeguards is the best practical control measure available.

Saldanha iron ore flow begins

BY RICHARD ROLFE

JOHANNESBURG, Sept. 22. TODAY the 120,000-ton ore ton which has largely financed the Norwegian flax will be in development of a new mine to meet its needs.

Over the next five years iron ore exports currently routed through Port Elizabeth will gradually be re-processed through Saldanha and with relatively minor expenditure Saldanha's capacity can be raised to 40m. tons per year.

Plans are still moving forward to activate the consortium which was formed some years ago to investigate the feasibility of a semi-plant at Saldanha. This next few years by private sector companies. One major contract is for the supply of 3m. tons per year by Associated Manganese to U.S. Steel Corpora-

JOHANNESBURG, Sept. 22.

Lack of availability of capital is the main problem at present as a semi-plant with annual capacity of 4m. tons, beneficiating 5m. tons per year of iron ore, would cost R1.5bn. and would require a massive inflow of capital into the Republic which looks unlikely to materialise.

However, if the political situation could be stabilised the semi-plant would be an early candidate for revival. Against about R14 per ton for iron ore the semi-plant at Saldanha is estimated to be sold for R100 per ton. On this basis the plant would earn more than R300m. per year in foreign exchange over and above what is expected from iron ore deliveries.

Swiss builders look abroad

BY JOHN WICKS

WITH CONTINUING sluggish demand and few capacities on the domestic construction market, Swiss building companies are expanding their activities abroad.

The Zurich-based organisation Gruppe der Schweizerischen Bauindustrie, to which 16 of the country's leading building companies belong, reports that at mid-1976 some 38 per cent. of its member undertakings' orders abroad were from foreign customers, while foreign orders accounted for 32 per cent. of the new-order volume in the first half of the year. Owing to the long-term nature of most orders from abroad, however, only some

ZURICH, Sept. 22.

17 per cent. of the actual turnover was made up by foreign business in the first half.

Major areas of operation are African developing countries and the EEC countries of the Middle East, with individual specialities also proving competitive in Europe and North and South America. The industry now hopes for growing participation in consortia responsible for turn-key projects and welcomes the proposed extension of the Swiss export-risk guarantee scheme.

Despite the opportunities offered by foreign markets, Swiss construction companies do not believe that the growing opera-

tions abroad can wholly compensate for the shrinking domestic market. The value of building projects this year in Switzerland is put by Government sources at Sw.Frs 20.16bn., which means a drop of 10.3 per cent. on 1975 and as much as 27.4 per cent. on 1974 levels.

Both housing and industrial building volumes are well down this year and are not expected to pick up "for years to come" in the case of housing, and until at least 1978 with regard to industrial construction.

"We were looking for a flagship to establish the idea of U.S. real estate investment," Koenig said. In G. D. Hines' interests, the developer and manager of Pennsill Place, Koenig said the Bank found a reputable and reliable partner.

The Bank Consortium, which includes Commerzbank AG, Bayerische Vereinsbank and Warburg Paribas Becker Incorporated, purchased the 80 per cent. share of the company for a total \$92.2m. Of the total, 45 per cent. or \$42m. was financed by the share sold to German investors, and the remaining 55 per cent. by U.S. mortgagees.

The consortium, in which Deutsche Bank holds an unspecified majority, formed the Deutsche Gesellschaft Fuer Immobilienanlagen America MBH, for which the banks operate as managing partners. With their purchase of the shares, investors become silent partners in the silent company that owns 80 per cent. of the \$115m. structure. G. D. Hines' interests retains the remaining 20 per cent. and management responsibility for the building.

According to the prospectus, the building itself was fully rented before completion at the beginning of this year. About 60 per cent. of the leases fall between 15 and 25 years.

Deutsche Bank's Koenig told AP-Dow Jones that the interest of German investors in Pennsill Place did not seem to represent any flight of capital from Germany. Rather, he said, it seemed more simply to be the interest of mature investors in diversifying their holdings in type and location.

The U.S. with its liberal politics and free flow of capital, represents a very favourable investment climate and is considered secure, he said.

The Fund is a closed-end company so that future real estate investments would require separate incorporation. Koenig declined to say if Deutsche Bank was looking at any particular area in the U.S. for future investments.

When it became known that a European bank was in the market for an office building, Koenig said of their initial search, "we were offered everything from the Pennsylvania Railroad Buildings to very speculative investments." Rather, he said, several areas of the U.S. show economic potential. He cited the south, particularly Atlanta, as well as the auto belt, Chicago, and he said, we should not forget New York despite its municipal problems.

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New training contract with Saudi Arabia for IAL

The Civil Aviation Directorate in mitters and one of broadcast the Ministry of Defence in Saudi transmitter, together with towers, Arabia has awarded International antennas and ancillary equipment Aeradio (IAL) the Southall-ments.

based aviation and communications services group, a £16m. contract for the development of its technical manpower for the King's civil aviation industry.

The six-year contract involves the establishment and operation of a training centre in Jeddah where Saudi Arabian nationals will study electronics and engineering subjects associated with aviation technical services. A total of 230 students will be trained.

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nationals to undertake operation of the Kingdom's civil aviation technical facilities.

This new contract is an addition to IAL's current contract with the Civil Aviation Directorate for the implementation of its five-year aviation modernisation programme. The Company was recently awarded a similar five-year contract by the King's Directorate of Meteorology to develop manpower and technical systems.

A special study ordered by President Ford was examining how the management of spent fuel might be carried out internationally "so as to minimise the inherent risks and to maximise the potential benefits," said Dr. Seamus.

The U.S. had been guided by two closely related concerns—the desire to guard against destructive use of nuclear materials, and the desire "in assure all States seeking to enjoy the benefits of nuclear energy that their legitimate need for reliable and adequate sources of nuclear fuel will be fully met in the future."

£1.5m. Marconi-Lagos

The Nigerian Broadcasting Corporation (NBC) has ordered next month following the recent £1.5m. worth of Marconi British Leyland deal which provides the corporation with entry into the Czechoslovak market. British Leyland deal was signed here by the Director of the Posts and Telecommunications Corporation of Zambia, Mr. Philemon Ngoma, and the general manager of Japan's Mitsubishi overseas project department, Mr. Yukihiko Nakawa.

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BOTB to cut back export support

By Margaret Hughes

JUST a few months after the Duke of Edinburgh launched Britain's Export Year, the British Overseas Trade Board (BOTB) has decided to cut back by 25 per cent. the support which it gives British companies exhibiting overseas.

The BOTB says that this is the way in which it has agreed to respond to the Government's efforts to reduce manpower and expenditure. It is therefore informing the various trade associations, chambers of commerce and other exhibition sponsors that "in broad terms the number of events which will be held in 1977 will be at a level which is 25 per cent. below that of the current year."

At the same time the minimum level of participants qualifying for support as a joint venture is to be raised from six to ten. In the current year the BOTB gave support to 5,448 companies at 272 overseas trade fairs in the first nine months of 1976.

The board claims that this measure is the best means of complying with the Government's pledge to reduce expenditure while having the minimum effect on Britain's export promotion programme.

But it is perhaps a surprising decision bearing in mind official forecasts that Britain's recovery from the current economic recession will be export led.

Immediate reaction from the London Chamber of Commerce, one of the chief sponsors of British participation at overseas trade fairs and exhibitions is that this is the time when the Government should be doing all it can to stimulate exports.

Although it appreciates the need for cutbacks, the chamber regards trade fairs as one of the more effective ways of encouraging companies to export.

Extensive pulping trials have been made at the Gatineau pilot plant license to other

Wide interest in British offshore equipment

BY RAY DAPTER, ENERGY CORRESPONDENT

THE BRITISH offshore supply will grow in importance in the industry will step up its export oil world," the spokesman added. Drive within the next fortnight. It is a compliment to Britain's as trade missions from oil young offshore supply industry that China and Russia, among others, have recognised the growing reputation of U.K. companies.

Russian and Chinese officials will be among the visitors particularly interested in the technology developed for deep water oil exploration and development.

Delegations which have had to travel to some of the most inhospitable conditions in the world.

The U.K.-based Tricentral International group announced yesterday it was to undertake a geological survey of the Herat block in North West Afghanistan.

An agreement, signed with the National Oil Institute, means that Tricentral will carry out a survey of 22,000 square kilometres over the next four months to establish the potential hydrocarbon prospects in the area.

DSM, the Dutch state company, also said yesterday that it had applied to the Dutch

Economics Ministry for permission to seek oil and gas in blocks 53, 55, 56 and 57 of the country's continental shelf. The application has been made with Nederlands Aardolie Maatschappij (NAM), which will act as

HOME NEWS

Call for aid to store water on farms

A CALL for government aid to enable landowners and farmers to store water on farms has been made by the Country Landowners' Association.

Capital grants for water storage should be increased, the association says, and it recommends 100 per cent allowances on expenditure on farm reservoirs and borehole construction.

It urges members to initiate co-operation between farmers for emergency supplies and that winter water storage plans should go ahead as soon as possible.

Businesses owe GLC £16m. rates

THE Greater London Council is owed nearly £16m. in rates due from businesses, it was disclosed yesterday.

Under present legislation, businesses may hold back half of their rates pending appeal against increases.

The GLC has asked for powers to charge the businesses interest on the rates they withhold.

'Slave' warning over attitude to Russians

Despite the refusal of the Government to allow a Soviet warship to dock at Leith, their obvious deference to the Soviet Union and its allies in other matters resembles the Munich period in the 1930s," Mr. Neave said in St. Neots.

The crowning act of diplomatic obsequiousness occurred last week when Mr. Crosland received the Foreign Minister of a Soviet satellite, Czechoslovakia's Mr. Chroupek, and at the same time refused to honour Polish prisoners of war brutally murdered at Katyn in the Soviet Union in 1940 while their country was our ally."

Canals plea

BRITAIN'S inland waterways should be allowed to contribute to the needs of the nation, Mr. Harry Grafton, chairman of the recently reformed National Waterways Transport Association, said in London.

'Too much' BRITAIN was grossly over governed, said Lord Watkinson, president of the Confederation of British industry.

Easy breathing

FEWER people end up in hospital with respiratory and cardiac diseases because London's clean air regulations have eliminated "pea-soupers," the City Corporation claims.

£21m. courts

A £21m. CONTRACT for a court house complex in Liverpool due for completion in March, 1982, has been awarded to Tysons (Contractors).

Drive for cars

LIVERPOOL, losing £300,000 on its city centre car parks, is to spend £5,000 in a publicity campaign to attract more motorists.

Thomas Cook in holiday 'price guarantee' war

BY ARTHUR SANDLES

THOMAS COOK has entered the travel price guarantee war by fixing the charges of its package tours up to one year ahead for those who are prepared to pay in full when booking.

The company caused a stir in the industry last year by guaranteeing that it would refund within 24 hours any money paid by its retail clients for holidays by other tour operators which subsequently ceased trading.

Small retailers claimed this to be unfair competition because they, unlike Thomas Cook, did not have the Midland Bank as a parent.

The company is now taking the view that customers are more worried by the instability of the pound than they are about the viability of tour operating companies.

It therefore, now joins market leaders Thomson Holidays and British Airways in offering a form of guarantee—

the detail differs from company to company.

"We have made a careful study of the financial risk involved for a company like ours," Mr. Ralph Carter, managing director of Thomas Cook, the U.K. operating arm of the Thomas Cook group, said in London yesterday.

"As when we launched the 24-hour money-back guarantee scheme, we have no doubts about the viability of this new safeguard for the travelling public."

There will almost certainly be a measure of alarm among smaller tour operators now that the majors are all coming out with guarantee schemes.

Thomas Cook, can balance their books as a result of the various fluctuations within the currency market and also by calculating the advantages of interest devaluation.

Smaller companies have less flexibility and less financial muscle to finance such an

operation in the first place.

Thomas Cook, in common with other major tour operators, is predicting virtual stagnation in the package tour market for next summer as far as British tourists are concerned.

Most tour operators seem to agree that the market will be at best steady and that it will possibly fall by some percentage points as a result of continued U.K. economic difficulties and the gradual decline in the value of the pound.

• Thomson Holidays announced cuts of up to £20 on brochure prices in all holidays to the Costa Blanca, Majorca, Ibiza and Tenerife from October 4-31.

Under the end-of summer "square deal" offer, clients select their destination from the brochure in the normal way—decide upon departure airport and date of travel—but leave Thomson to allocate the hotel.

Engineers agree to radical changes

BY KEVIN DONE, INDUSTRIAL STAFF

TWO YEARS of disagreement among professional engineers about the way their central organisation, the Council of Engineering Institutions, should operate, were resolved yesterday when radical constitutional changes were accepted by the council's Board.

After the decision, the Institute of Electrical Engineers, one of the main member institutes, said that it would stay within the council.

The protracted dispute has concerned efforts by some of the major member institutions—the council represents a total of about 15,000 chartered engineers—to produce a single organisation which would give them a more powerful voice when dealing with the Government and, at the same time, develop a better public image of the engineers.

Previously, the council's Board consisted mainly of representatives of each of the 15 corporate bodies. The new arrangements will allow equal representation for individual chartered engineers elected in free national elections based on the single transitory vote.

Mr. Tony Dummitt, chairman of the council, said yesterday:

"We can now shape the C.E.I. into an organisation that can more fully reflect the vital role played by the professional engineer in contributing to Britain's economy and to the well-being of its society as a whole.

The change has been made to remove a "possible hindrance to British exporters." Described as a "minor relaxation in administrative practice," it is regarded as recognising the realities of business visits abroad need to be made at very short notice.

Permission has normally been given for businessmen to exceed the limits, when justified, but it has required specific application to the Bank and a consequent delay.

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It will help particularly when business visits abroad need to be made at very short notice.

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This compares with the limit of £2,000 and £40 a day which has been in force since the beginning of 1970. The change is a recognition of the increased cost of travel abroad as a result of inflation and the decline in the value of sterling.

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This compares with the limit of £2,000 and £40 a day which has been in force since the beginning of 1970. The change is a recognition of the increased cost of travel abroad as a result of inflation and the decline in the value of sterling.

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It will help particularly when business

Can you name
the major
construction company
that achieved
record profits in 1975
for the 9th
consecutive year with
a turnover
of £411 million?



Diversity of activity achieved these results.
Over 27,500 people work for Tarmac in the
United Kingdom and overseas, in contracting, in the
manufacture and supply of building materials and
in the utilisation of natural resources.

It's this balance of experience and assets in
all sectors that gives us our unique strength in the
construction industry.

Probably the most soundly based international
construction company in Western Europe.

Tarmac Limited, Ettingshall, Wolverhampton WV4 6JP. Telephone: Bilston (0902) 4U01.

ADVERTISER'S ANNOUNCEMENT

We'll take
more care
of you

15

JO 110-150

British airways ANNOUNCE

Thursday, September 23, 1976



Follow the leader to the booming USA

MORE AND MORE TO AMERICA

More and more
businessmen are going to
booming markets of
America. Figures from the United
States show that Britons travel-
ing there for business from
January to May increased by
nearly a third over the same
period last year.

September route report NORTH AMERICA

There are two reasons for this:
The economy of the United
States is moving into the upswing
Britons have predicted.
The prices of British exports are
more competitive because of the
rise in the value of the £ against the
dollar.

British Airways attracted a lot of the
reased bookings. Between January
and May, the airline sold, in the UK,
5 per cent more tickets to the US
than in the same period last year.

And there are more and more
reasons why British Airways is chosen
more travellers than any other airline
between UK and USA. These are
some of them:

British Airways is the only airline
to operate Concorde from Britain.

British Airways is the only
scheduled carrier to offer an
advanced Booking Charter programme
on these routes this winter.

Although these are filling up
quickly there are Poundstretchers low
available on all scheduled services.

Direct flights to eight important
business centres in the United
States — New York, Washington,
Boston, Chicago, Detroit, Los
Angeles, Miami, and Philadelphia —
two in Canada — Toronto and
Montreal.

Many of the flights are in the
comfortable, wide-bodied Boe-

747.

For people in the North, there
are direct flights to New York,
Toronto and Montreal from Manchester
and Prestwick.

Rapid connections to other parts
of the United States and Canada
available at the gateway airports.
In particular, British Airways has
a series of connecting services
with US airlines. In this programme,
which is called Link-Up, passengers
can go on without delay to Houston
from Tampa from Miami, to New
Orleans from Washington, and to San
Francisco and Dallas from Chicago.

The high-frequency Miami flights
connect with services to Latin
America.

Boost for Concorde

CONCORDE will be flying to
Washington from Heathrow three
times a week from October 5 — every
Tuesday, Thursday and Saturday.

The decision to introduce the new
Tuesday flights reflects the success of
Concorde on the transatlantic route.

Concorde links the two capitals in
about four hours — against the seven
hours taken by subsonic jets.

It's great for holidays, too

PEOPLE who would like to holiday in
the United States should start with
Sovereign Holidays; for example:
NEW YORK. Seven nights at the
Metropolitan, three blocks from Fifth
avenue, from £225.

MIAMI. Fourteen days at the Ver-
tilles, a modern hotel right on the
beach overlooking the Atlantic, from
£365.



FLYING THE FLAG... The first long-range Boeing 747 with Rolls-Royce RB211-524 engines rolls out at Everett Field on the U.S. West Coast. Next year this aircraft and another will join the British Airways fleet of wide-bodied aircraft currently operating most of the airline's routes to North America as well as other long-haul destinations. The new aircraft

will fly first on the London-Johannesburg route, initially calling at Nairobi, but later flying non-stop.

The aircraft in the picture had its maiden flight on September 3, and is now undergoing extensive trials. In all, British Airways will take delivery of six of the aircraft before the end of 1978.

Reunion clubs formed for USA and Canada

MILLIONS of Britons have
relatives and friends in
America and Canada — and this
month two new clubs have been formed by British
Airways to help them make
reunion journeys without
fuss and without worry.

The American Reunion
Club and the Canadian Reunion
Club are open to all United
Kingdom residents with
relatives or friends in those two
countries. Young people are
particularly welcome as members.

The clubs offer many important
advantages.

Members will be given up-to-date information on the
cheapest approved fares. They
will be able to get help obtaining
visas and expert advice from
club officials on travel
throughout the two countries.

An attractive finance
scheme for buying fares is
offered to members. It will
include a special savings plan,
and it is particularly designed
to help young people.

The clubs also offer an excellent
comprehensive travel
insurance scheme.

Group flights for club members
will be arranged, and staff
will be on hand to help all
members on departure and
arrival at Heathrow, Manchester
and Prestwick airports.

Eight-page newsletters will



The first to fly... American Reunion Club member Mrs Alice Ayres collects her tickets in Dereham, Norfolk, for a visit to her daughter in Philadelphia.

of flying with the two British
Airways clubs is... the British
Airways flights.

These offers start with the
launch of the clubs. They
include preferential car-hire
rates for travel to British air-
ports and for travel in America
and Canada. Bargain rates at
hotels in both countries, and
special bus and coach rates in
the United States are also
available.

All this is given for a former
membership fee of just £1.

But the greatest advantage

For reservations and further details, see your
local travel agent or British Airways shop.



"Mr Marvo, it's no time
for levity."

Business will be booming in East Europe

NEW five-year plans introduced this year by all of the
eastern European countries offer immense new business
opportunities for British executives.

British Airways is ready for this boom with 22 flights each week
from London to the capital cities of these countries — while
offering a gateway to the German Democratic Republic
through 21 flights each week to Berlin. The Soviet Union, in
particular, offers excellent opportunities for British
exporters, with much of the
£1,000-million trade credit
given to that country by Britain
last year still to be used.

Advances

Almost all of the eastern
European countries are seek-
ing "joint-venture" agree-
ments with Western companies
which can offer technology
advances.

The overall British Airways
programme to this part of the
world this winter will include:
five flights each week to Mos-
cow, four to Warsaw and Zag-
reb/Belgrade, three to Prague
and Budapest, and two to
Sofia/Bucharest.

From November 1, all these
services will depart from
Heathrow between 9.40 a.m.
and 11.15. These times will be
convenient for executives in
the South-East and those con-
necting with Inter-Britain
flights.

Announce Reporter

First-class service will be
offered on all flights to Mos-
cow, Warsaw, Budapest, Sofia
and Bucharest. There will be
daily flights direct to Leipzig
from March 12 to 20 for the
spring fair.

Sovereign Holidays city-
centre packages are available
to Moscow/Leningrad, Prague,
Budapest, and Berlin.

British Airways has just pub-
lished a "Businessmen's Guide
to East European Cities,"
obtainable from Business
Travel, Department EE,
British Airways, PO Box 113,
London, SW7 4ED.

Travel agents have full

Make an escape with Skypak

A NEW programme of
Skypak Holidaybreaks in
Britain and Ireland has
been introduced by
British Airways.

They are specially designed to
help all those people who
want to get away from it all
— but not too far away — for
a short winter or spring holi-
day.

The Holidaybreaks start from
18 different airports in the
United Kingdom.
For Winter and Spring there is
a choice of island holidays —
on Jersey, Guernsey, the
Isles of Scilly and the Isle of
Man — city sightseeing
breaks in London or Dublin,
or winter sports in the Scot-
tish Highlands.

Advantage

For summer there are
Holidaybreaks in the Chan-
nel Islands or the Isle of Man
and these have the added
advantage of a guarantee of
no price increase if booked
before February 1 next year.
All Holidaybreaks include
return scheduled flights by
British Airways, self-drive
car or airport transfers, hotel
accommodation and meals
ranging from breakfast only
to full board.

Or fly to sunshine islands

SOVEREIGN Holidays by
British Airways has intro-
duced an Autumn and
Spring programme featuring a
wide range of holidays in
Bermuda, the Bahamas and
the Caribbean.

The "bright spots" featured in
the winter brochure include
hotels throughout the
islands, and prices start at
£258 for seven nights in
Bermuda.

Self-catering apartment holi-
days are also available, and
include 14 and 21 night stays
in Barbados from £210,
Antigua from £265 and St.
Lucia from £279.
Sovereign, of course, uses only
scheduled services to the
Caribbean.

It's good business ...

IT'S always good business to
save money — even when
planning a holiday.

For this reason, Sovereign
and Enterprise holidays by
British Airways are guarantee-
ing that people will pay only
the brochure price if they book
before February 1.

Enterprise has a second
money-saving idea for holidays
in Europe. A £5 discount per
person will be given on a selec-
tion of holidays booked before
October 5.

Travel agents have full

The Orient expresses

THE best way to Singapore is British Airways. There is a 747 flight
every day of the week except Friday, with only one or two stops.
Other airlines on this route are slower because they make three or
four stops — which can be pretty disturbing if you want to sleep.
British Airways is the only airline offering direct flights from
Heathrow to Hong Kong. There is a daily 747 service, and there are
VC10 flights on Tuesday, Thursday and Friday.

When success smells even sweeter

BY RAYNS DAVID

TWO BRITISH companies have of other products, and is now proved to be highly successful usually to be found competing in what is probably the least whenever a major contract to known sector of the chemical supply a new fragrance is being industry. They are Proprietary let. Among its recent successes Perfumes (PPL) and Bush PPL has helped to take Shield, Boake Allen (BBA), both of a newly-launched deodorant which join in the period of soap, to a leading position in intense international competition in the U.K. bar soap market.

Perfume occurring before any new BBA, part of Albright and Wilson, itself a major supplier of detergent materials to the big soap groups, has been similarly successful working across a somewhat broader front. Like PPL, BBA is in the business of creating new scents from a variety of substances, natural and synthetic, but it also has an extensive franchise business selling its own perfumes wholesale to local bottling agents throughout the Middle East and North Africa. The company has recently signed a £500,000 deal with the State perfumery in the Sudan, one of the most perfume-conscious markets in the world.

Perhaps surprisingly, the women's perfume market is now only a small part of the total world scent business and the big names in the wider field tend not to be the French companies whose products are found in airport off-duty shops and expensive stores. Toiletries, soaps and other household products now represent the main market for the producers of scents, and it is here that the U.K. companies have managed to win a substantial share.

Broader front

In only 10 years PPL has established itself alongside the U.S. Swiss and Dutch groups which have traditionally been the main suppliers of perfume for use by the manufacturers



A master perfumer selects his ingredients.

rival soap manufacturers as according to a recent set of the company one of the Queen's chemical NEDC figures, with annual awards to industry.

A move was made from the solitary exception of a small London to a purpose-built concern supplying specialist growth of both the U.K. refinery and compounding treatment chemicals used in the company, however, has been centre at Ashford in Kent, and crude oil production. Altogether success in the biggest market of all for perfume, the U.S. the company has now managed 70 countries are supplied by BBA's consumer range of perfume is marketed in the Middle East and North Africa under such evocative names as Bint-el-Sudan, Devotion, Mitra, Bali, Hal and Karina, usually through an arrangement with a local importer.

The company now has franchise arrangements where it can offer its customers a package consisting of scent technical expertise, development work

U.S." Mr. Gerald Landers, and packaging materials, with similarly important that a hab PPL's marketing director Senegal, Sierra Leone, Zaire, powder should smell delicate points out. The rapid growth in Zambia, Malawi, Kenya and the and a toilet cleaner should not U.S. toiletries over the past ten years has been followed by expansion overseas, but it is still very often the U.S. parent which decides the scents to be used by its manufacturing subsidiaries around the world.

PPL can now count among its customers Johnson & Johnson of the U.S. which is using some of the company's scents in a number of its international lines, and Vick Products, another major U.S. concern. PPL sees the need, however, to get even closer to the big U.S. groups including the local manufacturers serving only the American market, and the company is now building up its U.S. subsidiary in a bid to expand its market share.

BBA also has a U.S. subsidiary but although the bulk of the company's business is in the manufacture of scents to manufacturers of other products, it has also seen rapid development in recent years of its franchise business. BBA's consumer range of perfume is marketed in the Middle East and North Africa under such evocative names as Bint-el-Sudan, Devotion, Mitra, Bali, Hal and Karina, usually through an arrangement with a local importer.

We are actively developing our business in the U.S. because of the sheer size of our compound, and because so many international toiletries businesses are based in the

understand the nature of these essential items, some of which contain as many as 150 ingredients, and this is done through the use of an instant analysis system—a linked gas chromatograph and mass spectrometer which in a matter of minutes can separate and help identify constituent parts. The information from the mass spectrometer is fed into a computer which is programmed to process the information and present it in a form the analyst can study.

For some natural products—many of which are not in sufficient supply to meet demand—the industry can now make substitutes and these can have the additional advantage of not being subject to year by year fluctuations as a result of changes in climate. The problem for the industry, however, is that it is often the faint traces, present only in a few parts per million and incapable of being reproduced, which make a scent special.

Natural

But once information of this kind has been gathered, much will depend on the ability of the perfume team to produce a scent which will be attractive to the major producers of toiletries and help sell the goods. The chief perfumer has some 3,000 substances, natural and synthetic, to choose from, building up a new scent and ultimately only his nose to guide him. The process of compounding from the tanks in which various oils and chemicals are stored also takes skill because the importance of mixing the ingredients in exactly the right order. It is a job where it can take as long as five years to become proficient.

It is a business, too, which is surprisingly subject to fashion. The trend towards the use of natural material in clothing and other products means providing them with suitable smell, and the perfume industry has had to concoct oil to match the "nostalgia boom" place. Some obvious rules can be followed—for example a furniture polish will have to the industry's answer has best become as though it is doing a return to sweater fragrance furniture good, while it is evoking the smells of childhood.

APPOINTMENTS

Campbell Adamson becomes member of Renold Board

Mr. Campbell Adamson, director-general of the Confederation of British Industry from 1969 until June this year, has been appointed an additional director on the Board of RENOLD.

Mr. H. N. Sporborg has retired as a director of the HAMBRO TRUST. He joined the Board in 1953. Mr. J. D. Hambro has been appointed to the Board to fill the vacancy. He is the third son of Mr. Jocelyn Hambro, chairman of Hambros Limited and of Hambro Trust.

Mr. T. J. Knott, works manager, has been appointed to the Board of BERROW'S NEWSPAPERS.

Phillips Petroleum Company Europe-Africa has made the following staff changes. Mr. G. D. Goering, general manager of Phillips Petroleum Company Norway, has been made president of that company in succession to Mr. C. P. Kaiser, who is moving to London to take up a new appointment.

Mr. A. O. Waale, a vice-president of Phillips Petroleum Company Norway, has been elected a director. With effect from October 1, 1976, the charge of the Oslo office, will be responsibility to Mr. Goering. Mr. T. J. Jobs, operations manager for the Ekoisk region, has been elected a vice-president of Phillips Petroleum Company Norway. Mr. Kaiser has been made manager of a newly-formed European exploration office. Mr. J. K. Carlisle will be chief geologist for the European office and Mr. W. J. Woodward will be chief geophysicist. Mr. C. E. Hadlow, formerly manager of Phillips' Petroleum Company Ghana, has become manager of a newly-formed African exploration office, based in London. Mr. J. M. Starke is to be chief geologist for the African office and Mr. C. C. Braff will be chief geophysicist. Mr. R. J. Mickey and Mr. A. E. Bennett have been appointed exploration representatives in Madrid, Spain and Rabat, Morocco, respectively.

Air Marshal Sir Charles Pringle has joined the Board of HUNTING ENGINEERING, a defence contractor to the Government and one of the principal operating companies in the Hunting Group. Sir Charles, who retired from the Royal Air Force in 1973, became head of the engineering branch and controller of engineering and supply in 1973. He is chairman of the Hunting Engineering Board in the non-executive capacity. Sir Charles is also a director of Rolls-Royce (1971) and is chairman of the Council of Engineering Institutions.

Mr. L. A. Reason has been appointed to the Board of PETERBOROUGH MOTORS and will be the director responsible for commercial vehicle operations.

Mr. Robert Marshall and Mrs. Valerie Marshall have been appointed part-time members of the Monopolies and Mergers Commission. Mr. Marshall is principal of the Co-operative College and chief education officer of the Co-operative Union. Mrs. V. Marshall has been financial controller, Finance for Industry, mostly in Scotland, since 1968.

Mr. Richard A. Riley has been elected chairman of the FIRESTONE TIRE AND RUBBER COMPANY of the U.S. to succeed Mr. Raymond C. Firestone who retires at the end of this month. Mr. Mario A. Difesa will become president in place of Mr. Riley who will continue as chief executive officer.

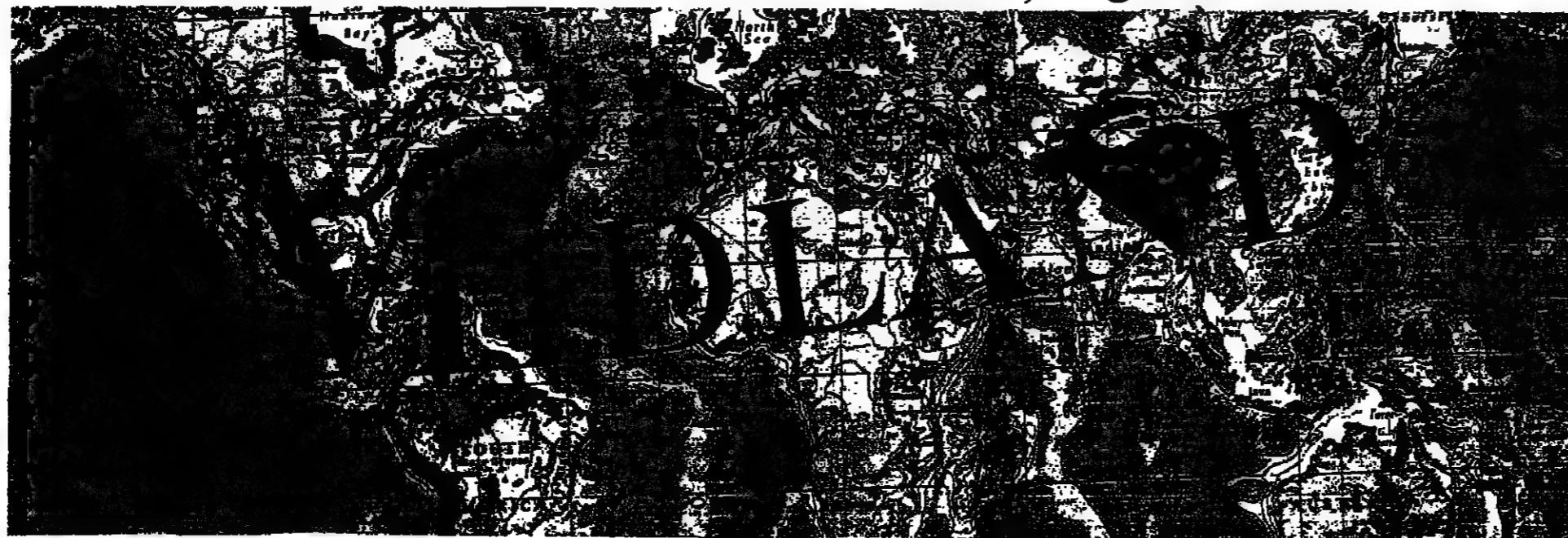
Mr. A. J. Goodfellow, on reaching the age of retirement, will resign from the Board of BLACKPOOL PLEASURE BEACH COMPANY. Mr. Geoffrey Thompson has been made group managing director and Mr. Charles Eurrell, a group director. Mr. Roger Wileek has been appointed commercial manager of that company and also a director of Morecambe Pleasure Park and Hotels, Patents and Investments. Mr. Frank Wright is now a director of South Shore Con-

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TEST US: Contact Brian Shepherd, our senior executive in charge of Export finance. Tel. London 606 9944, ext. 4368, telex 888401 or write, Midland Bank Limited, International Division, 60 Gracechurch Street, London EC3P 3BN, England.



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أكاديمية الأصحاب

How to get to the top—from the horse's mouth

BY MICHAEL DIXON

"MOST chief executives say reply. From industrial groups, dent, but all too often inside they want independent-minded, as well as Nick Cowan, they quietly appreciated. Trevor Owen of ICI, managers" observed Nick Cowan, personnel director of Terence Keenly of British Print Corporation, and another stupid for either candidate or Philips Electrical, with a slow smile. "But they don't all mean the same thing. My favourite is the one who added that every man in his organisation was expected to say what he thought, even if it cost him his job."

Mr. Cowan was amplifying a comment he had made some seconds earlier. It was that in the high ranks of big business management, to have been sacked from a company is not necessarily a handicap. To others with different managerial attitudes, it can be a positive recommendation. And the reason why he was saying such things was that the Jobs Column, to mark its first Thursday-morning appearance, was inquiring into question which must lie in the minds of aspiring executives everywhere. How do the personnel experts at the top of industry choose between candidates for other jobs in the senior ranks?

Six of them kindly agreed to about a couple of points which consider their experience and they thought seemed self-evident.

Be accurate about your achievements. Be informed about their business. Be natural, dress suitably.

The importance of being accurate about achievements arises in nobody's interests to land mainly from the qualifications somebody in the wrong job, and element of the interviewer's Employment Protection Bill search. The qualifications being not made any difference to looked for are usually determined.

"And since the odds against a perfect match are enormous, it and a hypothesised competent

is a matter of each party trying to work out whether there is a sufficient margin of tolerance."

Basic advice

The second point is that what makes for a sufficient margin of tolerance varies not only with the organisation's "culture" satisfied by a candidate. These and the type of job, but also questions are asked, not so much in the hope of one person answering all of them, but from the interviewer's side, as a yardstick against which to assess the candidate's relative strengths and weaknesses, and depends on three main elements, which can be summarised as qualifications, compatibility, and chemistry. Moreover, the six experts' review of their experience suggests four basic pieces of advice:

Be viewed as supporting evidence of — say — analytical work. The "inconspicuous" nature of the problems that we are, and he would be, facing as normal—should not be swayed by mere words, this source, adding that he relies heavily on it is not just a matter of the self-evident but apparently obvious questions he asks. It's whether goes unnoticed. The sad this line of his remarks shows as Philip Egerton suggested, an awareness of what the employer sees as the real problem acting performance is apt to areas, and that he's viewing the seen through by anyone who job accordingly."

The third piece of advice has professionally interviewed hundreds of people. The first-hand experience, all well will probably be to obscure and good. If it doesn't, then it evidence needed as to company needs to be "mugged up from memory, and to produce a relevant reaction in the interview, conversations with annual reports, Press cuttings on the company and quickly, decisive even though its industry, and any official representations they would like to think it ports with a bearing on the not business's prospects. Some, But the "be yourself" big times all this reading will come later evidently does not to nothing, as in the case of tend to dress. The appears one of the six who not long ago, rule here is circumspection was shortlisted by a national—where discernible—approised industry, and read it up ate focus mannerism.

"Even if the prospect still the certainty of his condemning six-hour interview, I usually ask: The importance of the other to be given the names of at least three people—past bosses, more from the compatibility colleagues and, where it's relevant, the chemistry elements of the relevant subordinates whom I interviewer's search.

Being informed about the take the best part of three more days, but for a top job, it's own industry is special," said Terence Kenny, "and thinking out that none of them knew as much as I did," he told me, and dress as he thinks fit. But

"But at least I had the data to know, it was always a legend where they were going. That example, you wear a white shirt was a case where the candidate And if I were being interviewed decided there wasn't a sufficient by IBM to-morrow, I'd go right now and buy one."

Point it out

What candidates need to do,

if they are to stay in the list,

is to quote from their past

"So you can be sure your

evidence that they will find you out," said

Eric Platt of MSL. "If there

possess the technical, intellectu-

al or personal capability in some major mistake lurking

question, or that they are within

your background, the only

close reach of attaining it. But wise course is to point it out

even that is not enough, and spell out how

the learned from it. It might still

swing the balance against you

checked.

"Even if the prospect still the certainty of his condemning

six-hour interview, I usually ask:

The importance of the other to be given the names of at least three people—past bosses, more from the compatibility

colleagues and, where it's relevant, the chemistry elements of the relevant subordinates whom I interviewer's search.

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"But at least I had the data to know, it was always a legend

where they were going. That example, you wear a white shirt

was a case where the candidate

And if I were being interviewed

decided there wasn't a sufficient by IBM to-morrow, I'd go

right now and buy one."

GENERAL APPOINTMENTS

A Franco-Middle Eastern Bank, located in Paris and specializing in international wholesale banking activities, particularly in the Arab world, is seeking to strengthen its Management Team through the following appointments:

1. Foreign Exchange Trader

2. Eurobond Dealer

3. Euroloan Officer

4. Real Estate Investment Analyst

The successful candidates should be fluent in English and willing to travel in the Middle East. It is expected that the candidates be between 30 and 40 years of age, have a minimum of 5 years professional experience and a proven record of success in their field of specialization. Knowledge of either French or Arabic would be an asset.

All of these openings are career positions with a competitive compensation package and the usual fringe benefits, including social security and relocation expenses.

Interested parties are requested to submit in confidence their resumes indicating salary requirements to

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FRAB-BANK INTERNATIONAL

To the attention of the General Manager
55-67, Avenue Kléber
75116 Paris - France

GENERAL MANAGER SOUGHT

For important, well established European subsidiary of American manufacturing, marketing and service company engaged in information processing and distribution.

Will consider European resident U.S. citizen or English, German national capable of demonstrating perfect responsibility, experience and understanding of European traditions and mentality.

Communication skills of an innovative, growth-oriented individual important. Languages other than English, desirable but not vital.

Attractive compensation package.

Please reply to Box No. F450, Financial Times, Bracken House, Cannon Street, London EC4P 4BY.

CITY MERCHANT BANK Assistant to Group Director and Secretary

required
with prospects of promotion in due course
Applicants must be fully experienced in all statutory secretarial matters, office management and staff control, Salary—negotiable. Non-contributory pension scheme.

Write with full details of experience, including present salary, to Box FT 420 c/o Hanway House, Clark's Place, London EC2N 4BZ.

Expanding Middle East bank requires
Cashier
(preferably aged between 30 and 40)

Also well experienced

Documentary Credits Clerk
for their London Branch. Applicants should submit curriculum vitae to Box A.5697, Financial Times, 10, Cannon Street, EC4P 4BY.

Our client, an international merchant bank and an affiliate of two major German financial institutions, is seeking to appoint a

Deputy Chief

International Finance Department

to its German Headquarters located in Frankfurt/Main.

The successful candidate, who will be in his middle thirties or early forties, should have the following professional qualifications:

- extensive experience in international lending, in particular direct financing and loan syndication
- a thorough understanding of foreign exchange transactions and money markets
- proven management abilities both as an administrator and business developer as well as sound commercial judgement.

The candidate will be expected to be able to deal effectively with clients and develop and maintain high-level business contacts. Fluency in German and English is an absolute must; a good working knowledge of French would be an advantage.

Salary and benefits will be commensurate with the responsibilities and importance of the position. Relocation and installation expenses will be borne by our client.

Interested applicants seeking a career position are invited to apply in strict confidence by sending a resume with full details of career experience, qualifications and present remuneration to

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Management Selection International

Kettenhofweg 137

6000 Frankfurt/Main - West Germany

CASH RESOURCING & MANAGEMENT

The Electricity Council is the central co-ordinating body for the electricity supply industry—one of the most capital intensive industries—in England and Wales.

We are looking for a qualified assistant to join our small, professional team which deals with all aspects of domestic and overseas borrowing, currently in excess of £5,000 million. The team is also concerned with the operation of the industry's pool banking system, money market dealings and other related activities.

You should be under 35 years of age and a graduate or professionally qualified in accountancy, banking, business studies or other related subjects. Financial acumen and the ability to apply it successfully is essential. Previous experience in cash management in the public or private sectors will be an advantage.

This is an opportunity to gain valuable and broad experience in large scale cash management. The starting salary is negotiable within a scale currently £3965—£5265 p.a. plus £312 p.a. Supplementary Payment.

Write in confidence, giving age, career to date and present salary quoting ref. FT/93 by 30th September, to:

Duncan Ross,
Recruitment & Development Officer,
Electricity Council,
30 Millbank,
London SW1P 4RD

ELECTRICITY COUNCIL

Corporate Finance Executive

Antony Gibbs & Sons, Limited, whose holding company is a member of the Accepting Houses Committee, has a vacancy for an executive in its expanding Corporate Finance Department. This is a new appointment.

The successful applicant will probably have a legal or accountancy qualification, be in his or her mid twenties and may have gained some post qualification experience.

An attractive salary, which will depend on experience, will be negotiated. Fringe benefits include a mortgage subsidy scheme.

Applications, which will be treated in complete confidence, should be sent with a brief curriculum vitae to:

C. E. Fiddian-Green,
Antony Gibbs Management Services Ltd.,
23 Blomfield Street, London EC2M 7NL

EUROPEAN DIRECTOR OF LEGAL PLANNING

Small (5-10 million per year) rapidly growing, multi-national, research and analysis company seeks an outstanding corporate legal and financial executive to structure and implement legal and financial plans, systems and procedures for corporate growth. The successful applicant will be:

- an attorney also knowledgeable about accounting matters;
- knowledgeable and experienced with respect to international tax planning, controversies and compliance, including income taxes, employment taxes and VAT;
- knowledgeable about licensing arrangements and compliance with various governmental requirements;
- business and profit oriented;
- analytical and inventive.

Compensation will be competitive for such a highly qualified executive.

Caci is a well managed, publicly-owned company with first class incentive and professional environment. We have offices in 17 cities in five countries. Our growth has averaged 30 per cent per year for our entire 14-year history.

Send confidential resume and detailed history to:
Clive L. Kirtley, Tax Counsel,
CACI, INC.
1815 North Fort Myer Drive,
Arlington, Virginia 22209, USA

GENERAL APPOINTMENTS

REGIONAL MANAGER BENELUX

This appointment based in Brussels provides a great career opportunity for a candidate in the age range 30-40 who can offer a good educational background together with mature experience in Sales, Marketing and Mass Media consumer advertising.

He will report direct to New York and be completely responsible for the planning, direction and control of our non-prescription pharmaceutical and toiletries business in the Benelux. The successful applicant will review all marketing programmes and work with and through distributors importing from the U.K., Germany and the U.S.A. together with Manufacturing Licensees located in the above countries.

Perfect knowledge of the English, French and Dutch languages is required. Basic knowledge of German is an asset.

If your experience and personal qualifications make you a serious candidate for this important appointment, please forward your curriculum vitae including current salary in strictest confidence to:

AMERICAN HOME PRODUCTS CORPORATION
c/o L.V.H. & Partners,
434, boulevard Lambermont,
1030 BRUXELLES, BELGIUM.

Ref. J.H.

Sunderland Shipbuilders DEPUTY MANAGING DIRECTOR

A Deputy Managing Director is required by Sunderland Shipbuilders Limited, a member of the Sunderland Shipbuilding and Engineering Group. The shipbuilding company operates three shipyards on the River Wear, employing approximately 4,500 persons.

Applications are invited from persons who are fully conversant with all managerial aspects and responsibilities and who have a proven record of achievement in the shipbuilding industry.

A car is provided, and the usual range of benefits associated with employment in a large company is available. Relocation assistance will be agreed where applicable.

Apply in confidence to:

Managing Director,
Sunderland Shipbuilders Limited,
P.O. Box 1, Pallion,
Sunderland SR4 6TX,
Tyne and Wear.

Managing Director

Consumer goods trading/distribution
Switzerland

A first-class manager experienced in consumer goods marketing and with a flair for profitable innovation, is required for the top post in a well known Swiss company. The company, long established, medium-sized and part of a large international group with very strong financial backing, has a reputation for its' successful development in the trading and distribution of consumer goods, both within and outside Switzerland.

Reporting only to the Board, the Managing Director will be fully responsible for every aspect of the company's activities. Backed up by a large and experienced team, he will be expected to use the company's many strengths and versatility to exploit new opportunities and ensure profitable diversification into new markets, products and services. The Board is ready to approve and support him in new business ventures which can be shown to promise a profitable return.

The ideal candidate would be a Swiss national aged over forty. He will know and apply effectively modern management methods, have proved his managerial

capacity and be at present in an important line position, with full responsibility for the profitability of his division. His progressive career will have shown not only successful experience abroad, but also particular success in dealing with the many problems related to distribution and the Swiss domestic market. A command of English and French, as well as German, is essential. This is a top level post for an accomplished manager. Not only does it offer great challenge, but also the certainty that by investing his efforts and talents he can ensure his own future. The high level and demands of the job will be reflected in the excellent remuneration which will run well into six figures (SW.Fr.).

(Ref. H1280/FT)

The identity of candidates will not be revealed to our client without prior permission given during a confidential discussion. Please send brief career details, quoting reference number to the address below, or write for an application form, and advise us if you have recently made any other applications.

PA Personnel Services

Hyde Park House, 60a Knightsbridge, London SW1X 7LE. Tel: 01-235 6060 Telex: 27874



General Manager Executive search around £15,000 + fringes

A small, yet successful and well-established, consultancy wishes to expand its activities in this highly skilled and professional field.

In addition to employing the more normal "direct approach method" it wishes to attract as many viable candidates as possible. Ideally it wants a man who is probably aged 37 to 45, has an excellent company line management background, with international exposure, is dedicated to the maxim of promoting exceptional managerial talent and has a successful track-record in a management consultancy, preferably executive search; he could also have worked in a merchant bank.

It wants a man who is an excellent day-to-day manager and is desirous of running his own show, in effect. Opportunities and rewards are limitless. But he must be very, very good.

Please write with full details. These will be forwarded direct to our client. List separately any consultancies to whom your application should not be sent. Ref. B.1333.

A CONFIDENTIAL 17 STRATTON STREET
LONDON
W1X 6DB

A member of MSL Group International

Export Finance

Ilford c £4,750

This major international manufacturing group seeks a young man or woman to join its head office export finance team to assist with the financial aspects of export contracts, including the administration of ECGD insurance, export finance and contract guarantees. The work will entail dealing with subsidiary companies and negotiations with credit insurance brokers, ECGD and Banks.

Candidates will have attained good educational standards, possibly Institute of Export or other such qualifications, and will be commercially motivated. Starting salary will be up to £4,750. Large company benefits apply and there are excellent prospects for career growth and overseas travel.

For an application form, write or telephone M. R. M. Wright, Personnel Manager-Finance, The Plessey Company Limited, Vicarage Lane, Ilford, Essex, 01-478 3040, Extension 2947.



Merchant Banking with Henry Ansbacher Banker-Manchester

Experienced Banker capable of handling all types of Documentary and Acceptance credits. Bills of Exchange. Export and Import Finance through all stages is required for this active Manchester operation of an Authorised Bank.

Applicants may be male or female and preference will be given to those with Northern associations. Generous salaries and fringe benefits.

Applications with curriculum vitae to:

J. H. Falhurst, Manager,
HENRY ANSBACHER & CO. LTD.,
Dennis House, Marsden Street, Manchester M2 1HF.

SECURITIES DEALER

£6,000+

International Merchant Bank in City requires a Securities Dealer to work with Investment Manager. The requirement is for a mature person of sound judgment and good education who has had several years' training and experience in the Eurobonds and other International Stock Markets.

It is expected that the successful applicant will come from an Investment Banking area, be aged 25/30, and feel ready to join and support a small but busy team. Usual Banking benefits apply, and this appointment is open to both male and female applicants.

In the first instance please telephone R. Jordan on 01-623 7317.

BANKING DIVISION
BROOK STREET BUREAU

TAX PLANNING SOLICITOR

TAX PLANNING SOLICITOR required by large Lincoln's Inn firm to assist a senior partner with a view to succeeding him on his retirement in 1981, and becoming a sharing partner by then. The partner concerned administers the Tax Planning Department and has substantial family and trustee clients. The position will also carry the succession to family clients of certain other partners due to retire during next ten years. Applicants should (unless of exceptional maturity) be aged not less than 25. Apply with c.v. to Box A.5696, Financial Times, 10, Cannon Street, EC4P 4BY.

INTERNATIONAL FINANCE

A major international financial corporation with operations throughout Europe is seeking an individual to assist the senior financial officer in Europe in its Treasury Department.

Primary responsibilities will include European-wide cash management and control, and financial analysis. Candidates should be in twenties in early thirties and should have practical experience gained in banking or a corporate treasury function. A good working knowledge of currency and money markets would be a distinct advantage.

This appointment, London based, involves some travel to European financial centres and offers considerable opportunity for the development of financial and management skills. Attractive salary by negotiation. Please write to Box A.5706, Financial Times, 10, Cannon Street, EC4P 4BY.

APPOINTMENTS WANTED

ENGLISHMAN

Living in Sweden with two years experience in the Scandinavian market. Can speak流利的瑞典语 and German. U.K. company seeks management with a U.K. sales company. Experience in the U.K. is a must. Salary £12,000-£14,000.

Write Box A.5707, Financial Times,
10, Cannon Street, EC4P 4BY.

MARKETING APPOINTMENTS

APPEAR TODAY ON

PAGE 19

"THE MARKETING SCENE"

Branch Management Opportunities

International Banking UK

branches we need very experienced men or women who will ideally be holding responsible positions with a UK or British overseas bank. They must be fully capable of fulfilling the role of business developer, making good use of B.C.C.I.'s Middle East expertise, especially in the export/import field, to build both personal and business deposits.

We want top calibre people and offer very competitive rewards. So if you are aged 30 to 50 and would like to know how we can help you attain high status in the world of international banking, write with full career and personal details to:

Mr. R. Plant, General Manager, Bank of Credit and Commerce International, 100 Leadenhall Street, London EC3A 3AD.



Phillips & Drew

BANK SHARE ANALYST

Phillips & Drew is seeking an experienced bank share analyst to join its equity research team. The successful applicant will join an expanding department with a high reputation in the City and in industry, not least for its expertise in the banking sector. Remuneration is competitive and there is scope for rapid advancement for the successful. Benefits include a profit-sharing scheme and a contributory pension fund. Please apply to the Staff Manager.

Phillips & Drew
Lee House, London Wall, London EC2Y 5AP

SENIOR ASSISTANT INVESTMENT MANAGER

Barclays Bank is looking for a Senior Assistant Investment Manager who has had experience in large fund management, particularly in overseas markets.

The successful applicant will be aged between 32 and 35, and as a senior appointment the job will carry a competitive remunerative package.

Apply, with brief details of experience and qualifications, to:

The London Staff Manager,
Barclays Bank Limited,
54 Lombard Street,
London EC3P 3AH.

BARCLAYS

The Financial Times proposes to publish its annual Survey

Management Recruitment and Training Services
on Thursday, 21st October. Editorialy we will cover Recruitment and Training Services, Manpower Planning and the Personnel Profession. The Survey will coincide with the opening of the Institute of Personnel Management's annual conference.

A copy of the proposed editorial synopsis is available on request from

James Jarratt,
Advertisement Department,
Financial Times,
10, Cannon Street,
London
EC4P 4BY.
01-248 8000, Ext. 539.

The Technical Page

ED BY ARTHUR BENNETT AND TED SCHOETERS

ELECTRONICS

ees where the eyes are looking

SURING THE movement of eyes of motorists driving at distances or in difficult situations, and of workers carrying out inspection duties on scale integration, and memories, has been made by a system developed by a system developed by a Department of Psychology at Nottingham University. The movement is precisely defined by the use of a two-dimensional self-scanned photo-array made up of a square of 4096 photodiodes. The signal is then fed to a computer which has been working in collaboration with rated Photomatix is of better than one-half accuracy being achieved 20-degree solid angle field of view.

array used, called the IPL, records on to a computer. The equipment is thus far less expensive than a computer which have been in the market for a number of years.

Health of services

With the addition of a number of services to its ECL 10000 series, types of emitter-coupled logic circuit logic circuits now available from the ICL marketing group of companies. The third product, Mufex, incorporates a spiral wrap of monofilament tape around the outer-tinned copper braid of the Gammaflex, with a further tinned copper screen over this, plus an outer protective neoprene sheath. Not as flexible as Gammaflex, Mufex however offers the ultimate in screening performance.

Typical operating frequencies are greater than 150

24881.

POLLUTION

utomating water plant

STERDAM'S new drinking water purification and supply system has been extensively re-thought and now is probably the most highly automated in Europe. Plants have been updated and considerably improved, and all is driven with a range of Philips equipment including P. S. 800 series computer systems. Total investment amounts to some 127 million guilders, which some 70 million is for Philips equipment so far installed. Some 75 per cent of Amsterdam's 600,000 cubic metres of drinking water needs is met by treated surface water from a 65 acre area west of the city. This is an inexhaustible supply, ever, and the ever-increasing

In addition, the vast pumping and the filtration processes must be precisely supervised, and any 'alarm' situation—such as sudden departure from preset levels—must be instantly identified, recorded and corrected.

The equipment is based on, and largely controlled by, Philips minicomputers, several of which have been installed in the Amsterdam system. In addition, two Philips automatic water monitoring stations (AWMS) have been installed.

Hunt Heat Exchangers Ltd, Brierley Hill, West Midlands DY5 1GQ. Tel: 0384 826678

THE FASTEST DRAW AT PEMEC.

The official United States Exhibition at PEMEC '78 presents a wide variety of 'Aids to Industry' which have been developed and are being produced by twenty-four American companies.

Each of these has its own contribution to make to the general improvement of plant efficiency, operation and productivity.

From September 27th to October 1st, Hall 2, National Exhibition Centre, Birmingham.

Phone for tickets and catalogue. U.S. Exhibition office 021-780 3339 or 3830.

UNITED STATES EXHIBITION PEMEC '78

PEMEC '78

We're ready to start a second industrial revolution.

Bristol has earned itself a reputation for being a superb business centre, offering the right facilities, the best communications, and above all, a refreshingly enthusiastic attitude.

Many successful companies are moving their headquarters the 1½ hours it takes to get to Bristol from London.

We've plenty of land and a pool of skilled and semi-skilled workers ready and willing to join your manufacturing industry.

Write for information about Bristol, now.

NAME _____

POSITION _____

COMPANY _____

ADDRESS _____

To: City Public Relations Officer, The Council House, College Green, Bristol BS1 5TR.



Conduit to screen out radiation

SUPER-SCREENED conduit systems for use in environments where there is an electro-magnetic hazard, each offer varying mechanical properties, but all incorporate an inner and outer-tinned-copper braid giving low resistivity, sandwiching a high permeability magnetic material.

Deltaflex neoprene-based conduit incorporates a galvanised steel braid, where the braid angles are specially designed to balance out the under-coupled inductance caused by the "windows" of the braid, and the over-coupled inductance arising from the "porpoising" effect of the braid wires. In addition to screening undesirable fields, Deltaflex offers good mechanical protection, combined with small minimum bend radius.

Gammaflex is composed of a double helix of high permeability magnetic steel sandwiched between the two tinned-copper braids, covered with an outer neoprene sheath.

The third product, Mufex, incorporates a spiral wrap of monofilament tape around the outer-tinned copper braid of the Gammaflex, with a further tinned copper screen over this, plus an outer protective neoprene sheath.

Not as flexible as Gammaflex, Mufex however offers the ultimate in screening performance.

Superflex, Buckingham Avenue, Slough SL1 4 PQ, Slough 24881.

This DS3 Microscale by P. T. Barclay and Partners provides precision inch and metric measurement with a maximum error of only 7 microns (0.00035 inch) over the full scale length of 500 mm. and 19.7 inches. The system is an Anglo-Swiss development programme involving P. T. Barclay and Mettler Optic AG of Zurich. The Microscale is manufactured and distributed exclusively by Barclays. Applications include measurement and checking of printed circuit artwork/phototooling/boards, cartographic and photogrammetric masters, technical and medical X-ray films, civil and mechanical engineering scale drawings, printing registration, and forensic material. It is applicable in inspection departments, drawing offices, photographic studios and laboratories. The portability of the instrument facilitates its use both in-house and on site. Further on 01-668 4646.

navigation fix. This results in more useable fixes than available from any other equipment. Between fixes, the system automatically dead reckons and compensates for set and drift.

S. G. Brown, Greyacres Road, Watford WD3 4XU, Herts.

occurs

LIGHTWEIGHT and fully mobile, a dust extraction unit is for use in conjunction with planers, spindles, moulders, routers, saws and small volume

Junior Dust-up is mounted on rubberised castors, and can either be coupled direct to a machine to take off waste at its source or can be equipped with a sweeping attachment for use as an industrial floor sweeper. A polythene and cotton twill dust collection bag is supplied with the unit to provide a waste storage capacity of 4.4 cubic feet. This is secured by a quick-release band for easy emptying.

Alternative hard wearing filters are available in either burlap or cotton twill, depending on the coarseness of the wood waste to be collected. The side-mounted fan is driven by a 1.2 hp (0.9 kw) totally enclosed electric motor.

Bust Control International, 27 Grandon Street, High Wycombe, Bucks, High Wycombe 34668.

Cuts costs of handling refuse

FOR THE small works, supermarket and office premises, a small waste compaction unit which stores wastes in disposable plastic sacks can give storage and handling costs reductions of up to 80 per cent, providing a pack of between 30 and 60 lb in weight.

The sacks can be sealed for storage over a period, reducing the danger of rodents and other pests and the equipment which does the compaction needs only a 15 amp power supply and no installation costs.

Waste Compaction Systems (Kent), Banbridge, East Peckham, Tonbridge, Kent TN12 5HE.

● NAVIGATION

Satellite fixes made simple

THE FIRST satellite navigation system incorporating a microprocessor in place of a separate computer, the MX 1102, requires only a few hours training for operation and maintenance.

S. G. Brown (Hawker Siddeley) is the principal European agent for this Magnavox unit. In it, the receiver, microprocessor and CRT data display are housed in a single case which is no larger than a portable TV set, and may be chart table, bulkhead or deck-head mounted. The only other item, a small antenna/preamp, is mast-mounted in any relatively unobstructed location.

Continuous navigation information is clearly displayed, requiring no special charts or manual computations. Latitude, longitude, and Greenwich Mean Time, are supplemented by such information as distance travelled, heading to steer, Great Circle and Rhumb Line courses, distance to destination, and time of next (and future) satellite fixes, all of which may be displayed upon operator command.

Novel in shipboard satellite navigation systems, is programmed tracking. This enables the new system to distinguish between different satellites, and to lock on to signals from

Much faster glass fibre fabrication

A DEVELOPMENT likely to have a considerable impact on the manufacture of standardised glass fibre fabrics is now being marketed in the U.K.

Basically the equipment consists of an automatic impregnator

COMPUTERS

Speeds the departing passenger

THE FIRST commercial application of the Coral compiler for DEC machines is to be for a major update of Lopac, the airline departure control system. Seicon has started work on converting the Lopac programs from DEC Assembler to Coral 68 so that Lopac can be used on larger DEC computers.

Lopac—Local Optimisation and Passage Acceptance Control System—was developed at a joint venture by Science and Cable & Wireless for the many airlines that do not require a massive mainframe.

The first two Lopac systems delivered were built around the DEC PDP-8 minicomputer. These systems, were written in DEC Assembler. The decision to upgrade the hardware to the DEC 11/38s followed orders for larger systems with requirements for more check-in desks and enhanced facilities. This gave Seicon the opportunity to streamline the software and over-dimension the hardware.

Seicon is to Sanderson House, 49/57 Berners Street, London W1R 5AR. Tel: 01-580 5599.

MDC states the company has proved itself to be "up to 50 times faster in software development than equivalent cassette or paper tape based systems."

For hardware development, the system offers a remote front panel and ROM simulator facilities, a modular bus-oriented PC card cage supported by general purpose breadboard cards, extender cards, EPROM programming, and self-testing firmware. It can even be used as an incoming parts tester. More from 108A Commercial Road, Swindon, Wiltshire SN1 5JG.

BUILDING

Hoist for two people

A LOAD of 175 kg or two persons can be hoisted to the upper parts of cranes, towers and similar structures at speeds of 20 m/min using an electric service hoist introduced by Linden All-mot.

Designed to climb a rope suspended from a fixed anchorage point it is guided by a track consisting of two rectangular tube sections tied together with brackets attached to the mast.

The rope on which the hoist climbs is tensioned with a counterweight with the actual rope passing over a fixed pulley. Other grades can be supplied to special order. Make-up is either 4kg (approx.) balls or 8kg (approx.) coils.

• INSTRUMENTS

Twine will dissolve

AN ALTERNATIVE to wire or synthetic products for the securing of baled waste paper is available in the form of "Somtwin." Non-contaminating it is made entirely from spun kraft paper, which means that it does not have to be removed before re-pulping.

There are no wet strength additives, so the material breaks down in the re-pulping and re-coups some of its value, producing its own discount of between 10 and 20 per cent.

Somtwin is white or brown, depending on the paper product to be used and is available in three standard thicknesses to suit three bale weight ranges.

Other grades can be supplied to special order. Make-up is either 4kg (approx.) balls or 8kg (approx.) coils.

• POWER

AGR problem not so bad as thought

• PROCESSING

Standard filters

WORK IN progress at the Central Electricity Research Laboratories, Leatherhead, Surrey, has shown that the expected stress corrosion problems in AGR

filters are not as severe as had been anticipated.

When current programmes in this and associated corrosion areas have been completed, the laboratory staff are confident that these problems will be solved and should not be a factor in determining the strengths of two-months minimum service life guaranteed.

Models are provided for sterilisation, for total removal of oil, water and dirt from oil and gases, for fine filtration of liquids and steam and for dust and odour removal. Each filter is designed to provide optimum performance—in terms of flow rate, filtration efficiency and pressure drop—relative to one of the standard outputs.

• PLASTICS

Nylon grade withstands flame

EMSER WERKE, of Zurich, has introduced Grilon A 35-V0, a flame retardant polyamide (nylon) 6 injection moulding grade with self-extinguishing characteristics.

The new material has a UL (Subject 84) flammability rating of V-0 at a minimum thickness of 0.3 mm. in all colours.

Unfilled material, its properties and natural colour are not significantly different from those of standard Grilon polyamide 6 moulding grades. However, flame-retardant additives used are free of chlorine or other halogens so that it uses no problems of mould or machine corrosion, and it is readily processed on all equipment normally suitable for moulding polymers.

Consisting of a special purpose CRT terminal (itself using AMI 5800 circuits extensively) and a dual-drive floppy disc with 500 kilobytes of on-line storage, the system is provided with a two-stage filtration unit and has interchangeability of elements and housings.

Technical performance ratings are: for removing oil and water from air and gases (absolute removal rating = 0.01 ppm), up to 28,500 Nm³/h at 1 bar gauge (models for 10, 16 and 25 bar).

• INSTRUMENTS

Tests the strength of detergent

INDUSTRIAL DETERGENTS

division of Joseph Crucible has

developed a portable detergent concentrator, the CERL, powered by mains

and associated corrosion areas have been completed, the laboratory staff are confident that these problems will be solved and should not be a factor in determining the strengths of two-months minimum service life guaranteed.

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An advertising agency can only be as good as its clients

Ours are great

Agfa-Gevaert
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Aquascutum
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Bayer UK Delial Sun Products.
Black Cat Cigarettes (Carreras Ltd.).

BOC Datasolve Limited

Cairnrange Cosmetics, Toiletries.
Carreras/Rothmans (Consulate, Guards, Peter Stuyvesant, St. Moritz).

Central Office of Information

Cessna Aircraft.

Crabbie's Green Ginger Wine.

Italian Fashion Institute

J.I. Case Earth Moving Machinery.

John Walker & Sons Ltd. Scotch Whisky.

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15 Grosvenor Place, London SW1X 7SJ. Telephone: 01-235 6050.



LABOUR NEWS

Seamen's settlement terms

BY CHRISTIAN TYLER, LABOUR STAFF

THE FULL terms of the settlement accepted by the National Union of Seamen yesterday are set out below. Underneath each item we have quoted the appropriate part of the social contract documents, or guidelines published by the Department of Employment and given some explanation of how the settlement matches those guidelines.

Earnings increase, from Jan. 2, 1977.

A supplementary payment of 5 per cent. of earnings from all aspects of National Maritime Board agreements (that is, pay, overtime, leave pay etc.) with an upper cash maximum of £4 and a maximum of £2.50 per week. Pro rate minimum and maximum cash figures for junior ratings and boys.

(This is the rise in earnings—not basic rates—which for qualified seamen average £30 a week, that the TUC and Department of Employment said the seamen could have under the current stage of pay policy. The union's earlier claim for a £5 earnings rise from July this year, the normal anniversary date, was ruled in breach of the policy because their "last major increase" was in January this year, the second stage of a three-part 3.5 per cent. arbitration award before the £5 limit was introduced last August 1. The social contract's "twelve-month" rule was the key point here.)

Merchant Navy establishment benefit or "fall-back" pay. The benefit to be increased as follows, from October 4, 1976: Junior ratings and boys: first two weeks from £2.00 to £2.50, subsequent weeks from £3.00 to £4.00; senior ratings from £12.50 to £13.50, and £5.00 to £5.50; petty officers and higher ratings from

£14.00 to £15.00, and £7.50 to £12.00. The maximum period for establishment benefit, while unemployed, to be increased from 18 to 26 weeks in the calendar year. A joint approach to be made to the DSSC with a view to removing the restriction of 15 weeks' maximum continuous period of payment.

The present qualification that seafarers on training courses do not qualify for first fortnight rates, at any time, to be removed.

The present qualification that periods in receipt of special payments are deductible from sick pay benefit to be removed.

No restrictions will be put on improving this benefit, while it is paid in addition to unemployment benefit to seafarers waiting for their next ship. Last Friday, about 1,500 men were reporting to the 24 UK port "pools" for jobs. Earlier this year the figure was 4,000 at any one time.

The present pay policy guidelines document says: "All other improvements, including wage increases, should be kept within the overall pay figure, except as provided for in the current policy" (that is, the £5 policy then still applying).

Guaranteed

This was explained by the Department of Employment in July as follows: "Improvements to enhance job security—such as more or improved redundancy payments, guaranteed weekly provisions and sick pay schemes—are allowable outside the pay limit."

"Fall-back" pay, last updated last year, is the industry's equivalent benefit or "fall-back" pay. The benefit to be increased as follows, from October 4, 1976: Junior ratings and boys: first two weeks from £2.00 to £2.50, subsequent weeks from £3.00 to £4.00; senior ratings from £12.50 to £13.50, and £5.00 to £5.50; petty officers and higher ratings from

£14.00 to £15.00, and £7.50 to £12.00.

The big bonus of contention.

"Captive time" is used in two senses, which the settlement recognises. Captive time in port when men are stopped from going ashore to enjoy their time off because the ship may have to be moved, for example, and week-ends spent on the high seas when there is no work.

The settlement recognises the difference, promising a more formal system of time off in line with the contracting-out level of the State Scheme. But the industry's own scheme has lagged. Redundancy and medical assessments fall under the terms of the contract extract quoted above.

A claim for overseas current allowances was rejected by the shipowners as against the social contract. This was the other contentious area in the negotiations.

The TUC had strong reservations about it. The only such allowance at present is a long-standing one for the North and Central American dollar zone.

Seafarers were anxious to go similar arrangements for Scandinavia and Australia in particular.

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The Marketing Scene

Three big brand names are advertising more this autumn.
ANTONY THORNCROFT gives the marketing background

Burton unbuttons

It's a week since the menswear division of Burton started a television advertising campaign which will cost £300,000 in the next three months. But advertising budgets are not adding up to be spent. Burton has had a rough time of things and the hot summer was very helpful for selling.

The hope is that the advertising will mark the start of a new era for the company.

The problems facing Burtons well-known over-rapidification into retailing, like office supplies, high Ryans, and cameras, high Greens, hundreds of expensive High Street items which did not easily come to new concepts.

The menswear division puts over half of the p's sales, and most of its t's, the reforms are starting.

And inside menswear, in-measure suits has been tested as the key sector. This is the basis of Montague's business—he reckoned for a suit for the price of a weekly wage.

Two years ago Burton's was around £1m. made-to-measure suits a year; now it sells more than half a million. Although it's a measure in a declining while ready-to-wear is growing for another half a million suits annually) is likely to grow, it is too important for us not to try to stabilise the situation.

But stabilising the situation in two years Jim Power has is only part of the battle. Burton has, in the past, had little success in selling other items of men's clothing. It still gets a lot of its business from suits, and wants to reduce this to 30 per cent. This summer it started to push casual wear in its stores, in particular jeans which carry the Burton name. The larger of the (reduced) chain of 440 shops are being diversified with Man Shop departments (a companion to the successful Top Shop for girls) appealing to younger males: six are already open.

On a wider scale Burtons is the first time that will progressively push shirts, knitwear, and a wide range of outside designer whose name is casual clothing, to be advertised feature on the labels of the in the spring.



Jim Powers

Chambourcy changes

LAST week-end 60 well-mutured men of influence in the grocery trade were taken to Paris. But on this occasion there was rather more distinction for the jaunt. Chambourcy may now be owned by Nestlé, and located after in the U.K. by Findus, but its origins are French with the main factory just outside Paris.

Chambourcy first sold its yoghurt in the U.K. in 1967, and by 1971 had 11 per cent. of an expanding market. But then things started to go wrong, (despite the acquisition by Nestlé) and market share shrunk to 3 per cent., even though yoghurt is one of the great grocery success stories of the past decade, pushing up its market value from under £5m. to £45m. at retail prices. There should be more growth to come—per capita we eat eight pots of yoghurt a year as against 50 in France.

Chambourcy's problems were mainly in distribution, with less than half the multiples covered and little exposure in the north; price, where it was more expensive than aggressive rivals like Ski and Prize, who, in the past year have sold most of their pots at a discount; advertising, where the limited distribution made major promotion uneconomical; and packaging, with a container which offered less value for money and was inclined to leak. All told these disadvantages outweighed any product pluses.

Finally Nestlé decided to rescue the brand. It was given to Findus to market, which immediately improves the size

French level.

Formica grades up

NEXT MONTH Formica launches a £300,000 TV campaign, its biggest for many years, and the start of a concerted promotional drive which will cost the company £1.6m. over the next two years.

The advertising is partly aimed at rescuing the brand name from the generic wilderness—over the years Formica has become synonymous with laminates, with the result that consumers have been unconsciously buying the products of competitors.

But the main impetus behind the campaign is to reassess Formica as a premium brand and to push its new Super Range of decorative laminates, which the company reckons, contains the nearest thing to a wood that a plastic based product can hope for.

Formica, or at least the British end of this De La Rue subsidiary,

has improved its financial position considerably by pushing up prices and stressing quality. It initially tried to compete with the rush of imported laminates at their own game by cutting prices, with the result that its market share fell to 31 per cent. in volume, although in value terms it was 42 per cent.

Four years ago it moved up-market, and now reckons to have 37 per cent. of sales in volume but almost a half in value. More to the point, according to managing director James Plumpton, Formica has over 90 per cent. of what profit is going in this intensely competitive business. It markets a cheaper line to ensure that it competes with the imports, but the concentration is on the expensive products. Indeed the Super Range, launched nationally last week to Formica's two hundred and fifty distributors who account for 80 per cent. of sales, is 15 per cent. more costly than the quite expensive Standard range.

During the bad years for laminates, in 1974 and 1975, when sales fell by 20 per cent., Formica managed to increase its market share and this year all the signs are that the quality lines are doing better than the cheaper products. Hergana, for example, Formica's single largest customer, has used its Super Range designs in its latest kitchen furniture.

But Formica looks for most growth in moving laminates out of the kitchen and into dining room and bedroom furniture. The rising cost of wood is forcing furniture manufacturers to use poorer veneers, and Plumpton reckons that the new laminates, especially those which have been given a three dimensional surface and thus avoid the cold, clinical, feel of plastic, will be steadily accepted by the furniture trade—and the public.

Guide to job ads

WITH BASIC unemployment over 1.3m., this is a good time for the Advertising Association to publish a report on recruitment advertising and the U.K. employment market. Called "Communications and the Job Seeker" and written by Roderick Braithwaite, chief executive of one of the largest recruitment agencies Charles Barker Recruitment. It is rather formally described as a "contribution to discussion at a moment when expert opinion is predicting a turnaround in the employment situation."

In 120 pages it makes the case for recruitment advertising, which is a £150m. business in a good year. According to Charles Barker research, up to 90 per cent. of workers use recruitment advertising, and with 10m. people changing their jobs in a year this means a great deal of interest. Of course recruitment advertising is not flourishing in 1976—expenditure is around £5m., as against £10.2m. in 1975—but now there are signs of some improvement.

Braithwaite reckons that although unemployment will remain high for the next decade, companies will still find it hard to recruit the right staff. For example, in the last three months there has been a rise in unfilled vacancies.

The report costs £3 a copy and contains a wealth of information about what is a key advertising area, with examples of how the response to particular advertisements can be measured, and how recruitment advertising can be used to define job specifications.

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MARKETING APPOINTMENTS

Managing Director

London

£10,000

Time Products Limited, a public company engaged in distributing such well-known watch brands as Sekonda and Longines and with its own chain of 70 jewellers, seeks a Managing Director for a new subsidiary company which starts operations on 1 January 1977.

Reporting to the Group Managing Director the new man or woman is to be responsible for the national launch in the U.K. of a leading watch brand with a world-wide reputation and for the management of the Company.

This appointment is an opportunity for a person aged about 35 who has an exceptional record in sales management to the retail trade and mail order outlets. Proven experience and entrepreneurial flair are more important than academic or professional qualifications.

Remuneration is £10,000 plus a Car and appropriate fringe benefits.

Write in confidence with adequate Career details to Miss M. T. Stone, Personnel Services Division of:

Spicer and Pepler & Co., Management Consultants, 3, Bevis Marks, London, EC3A 7HL

Marketing Manager

East Midlands

This new appointment is a key factor in the expansion of the total sales organisation in a specialised branch of the food production and distribution industry—providing for the demands of rapidly increasing home and overseas markets and anticipating the impact of doubling production capacity, planned for completion next year.

The prime requirement is a comprehensive understanding of food marketing and to have played a leading role in policy-making and the definition of objectives, strategy and tactics and the formulation of long-term sales projections.

The Company is the dominant market leader in its own field and the job offers exceptional career potential for executives with a professional knowledge of up-to-date marketing techniques, backed by creative ability and initiative.

Applications are welcomed from men or women who have wide experience of all aspects of consumer marketing.

PA Advertising

St. James's House, Charlotte Street, Manchester M1 4DZ. Tel: 061-236 4531. Telex: 667958



A member of PA International

Retailers anti-agencies

BY OUR MARKETING EDITOR

A CONFRONTATION between advertising agency people, at least aware that some of the biggest accounts around these days belong to retailers, and some of the top shop men, with the IPA as referee, should have produced fireworks.

But the Monday night meeting was a tame affair, with the agencies void apparently accepting the fact that brand advertising was on the decline and that, in future, it would be the retailers who would dominate the marketing of those goods they choose to stock.

Although the retailers admitted that they were taking promotional money from manufacturers that would previously have gone into brand advertising, the competition for the retailer's own advertising appropriations (which rose by 50 per cent. between 1969-74 and must be almost 20 per cent. of all display advertising by now) keeps the agency people polite. With Fine Fare spending almost £3m. on advertising, agencies are obviously willing to adapt.

Of course, as Iain Wolsey, marketing and advertising director of Fine Fare, pointed out, the company was not putting up all that money itself. Manufacturers contributions accounted for almost a half of Fine Fare advertising. Wolsey saw this as additional money, paid by the manufacturer after the aerial deal discounts had been worked out.

But he reassured the audience that any cash contributed to advertising brands in those Fine Fare "price off" advertisements in The Sun and the Daily Mirror was actually used to promote the product.

Wolsey pointed out that national promotions advertising was only a part, and perhaps a declining part, of Fine Fare's advertising strategy. It was putting more cash into grass-roots campaigns, through local newspapers and on commercial radio.

Specific campaigns for the Shoppers Paradise discount scheme, the opening of the Hyde store, and on promotions in Glasgow, all using local radio, had paid off. But a national radio campaign had proved inconclusive, perhaps because commercial radio currently only reaches two thirds of Fine Fare's customers.

Apart from more pinpointed advertising, Fine Fare is also interested in getting its corporate image across, and 40 per cent. of its advertising is not linked to prices or promotions at all. As its stores get bigger and widen their merchandise to take in more non-grocery items, the importance of such image advertising will grow.

Wolsey's contribution could not have been more different from that of the preceding speakers, in particular Harry Shepherd of Marks and Spencer, who spent



Iain Wolsey and Harry Shepherd

out his company's management for their philosophy and concluded that ignorance of the retailing business, the closeness between the store, and its suppliers on one hand, and its customers on the other, was forcing agencies to create hard-selling Press campaigns left in themselves.

Agencies would try to persuade their retail clients to undertake glamorous corporate image campaigns, quoting the success of Woolworth in selling a revitalised image. But Mr. Barnes

reckoned that what worked for impulse buys, and for frequently purchased grocery lines, was inapplicable in consumer durables, bought after family discussion and inter-store comparisons.

All in all the retailers are still convinced that they are a specialised business about which advertising agencies are very ignorant. As Eric Barnes said: "We have the facts—they can't thrash the cash register." The implication was that agencies might like the commission from the retailer's huge advertising budgets but they were not prepared to adapt to the nitty gritty, pressurised, constantly changing world of retail advertising in Europe, Inc.

● ALLARDYCE, which has NET revenue for the commercial television companies in August was £12,833,012, around 10 per cent. more than in August 1975, and the smallest monthly rise this year.

● PETER MEAD & Partners is changing its name to Mead Davies & Vickers, in recognition of the work put into the firm by Adrian Vickers and Guy Davies. Peter Mayle remains chairman of the company.

● ONE of the biggest market research contracts in the U.K.—the National Readership Survey worth over £200,000—will be handled by Research Services for the three years 1977-79. For the past three years the research into newspaper and magazine readership has been carried out by Grendon Commercials, who will retain production of the TV ads.

THE PRESS

Who, what and where

By Alan Garth

RESEARCH into newspapers has been mainly concerned with their advertising revenue. It is now becoming increasingly involved with editorial. That fact emerged from the deliberations of over 200 newspaper promotional men and women who met in Arles last week.

John B. Mauro, president of the International Newspaper Promotion Association, told the organisation's sixth European conference that while most advertisement directors could look at an ad and give a pretty good estimate of the percentage of readers who would read it, editors did not possess the adman's crude benchmark.

Mr. Mauro is director of research for Media General Incorporated of Richmond, Virginia, which publishes six newspapers. He gave details of new research conducted among readers of the Tampa Tribune. Among the facts brought to light was that men read about one-third more editorial and women slightly less, although readers claimed to read more than they actually did. Young people read less than older, missing out on business, politics, labour relations, culture, and general service features, such as weather, obituaries and TV listings.

The survey had shown that three major types of reader existed—those who read to keep abreast of what is happening in the world (54 per cent. of total male reading activity); those who rely upon the newspaper for its human orientation and information for planning daily activities (12 per cent.); and those who care for little else but sport (8 per cent.).

Men were generally more influenced than women to start a story by such things as the headline, a photograph, or the length of the text. The position of a story on a page, or whether it was on a right hand or left-hand page, or whether it carried a by-line, was "of little consequence."

British editors may not yet be similarly sophisticated in techniques to measure the readership of their work, but there is increased activity in this area. In a major presentation on the promotional activities of Thomson Regional Newspapers, marketing manager Roger Holland commented: "Finding out what readers like and dislike, what makes them buy and cancel newspapers, has become increasingly important as our circulation revenue becomes a proportionately larger share of our total revenue."

This has led to editors making changes in the editorial and layout of the newspapers concerned.



MICHAEL FARADAY

GUGLIELMO MARCONI

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Seventy-eight years later Ulster Television has another landmark—400,000 sets now receive our programmes, nearly one and a half million people.

Thank you Mr Faraday, thank you Mr Marconi.



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THURSDAY, SEPTEMBER 21, 1978

A dangerous agreement

THE SETTLEMENT accepted by the National Union of Seamen yesterday is a mixed blessing. It is, of course, a great relief that there will not now be a strike. Such an event would not necessarily have been quite the devastating blow to the economy that a strike by the miners or the dockers can be, but it would certainly have done a great deal of damage. Yet the important question remains: at what cost?

The TUC and the Government maintain that the new deal does not breach the terms of the social contract, although it includes items that many people had not realised could be arranged within the terms of that contract. The Government itself is not happy about the forward commitment to concessions, "as soon as it is permissible under the pay policy," but it can be argued that each separate item in the new package can be referred to one clause or another in the social contract.

So far, so good. The trouble is that every other trade unionist will be aware of the details of the agreement reached with the seamen, and those who believe that they too qualify under the freshly-publicised possibilities will naturally press their own claims. Most of the seamen's gains involve fringe benefits—although these are generally restricted to existing benefits, since what the NUS has won has been increases in those already paid, not new benefits.

Labour costs

To the extent that other workers now insist on increases in fringe benefits, and what they ask for, labour costs will rise. This is the first side-effect of the prescription for the seamen. There are others. The increase in fall-back payments—it is not yet certain how they form of guaranteed week—is will react but the danger of a the equivalent of a 60 per cent rush to break through the wage-rise on that item alone; many restraint policy is clear.

M. Giscard abandons fine tuning

THE PURPOSE of the French economic measures announced yesterday is twofold. On the one hand, President Giscard and his new Prime Minister, M. Barre, are trying to forestall a major economic crisis, the threat of which has been accentuated by the drought and its harmful effect on French agricultural exports. On the other, they are trying to persuade the electorate that large-scale reform is under way, especially as it relates to the redistribution of wealth and the removal of inequalities. It must be open to question whether the two aims are achievable, at least within the time available.

Deadline
Time is limited because the political deadline is clearly the Parliamentary elections due in the spring of 1978. That means that the Government has little more than 18 months in which to reverse the trend of the cantonal elections earlier this year and the public opinion polls since, at least, which point to a Left-wing victory that would be profoundly embarrassing for President Giscard and might indeed make it impossible for him to govern.

Investment

There is another part to the measures, however, which seems neither to fit the aim of reducing inequalities nor of fostering economic development. Industry is being asked to accept not only a price freeze, but also a rise in corporation tax. Although there is to be a state loan to encourage small and medium size companies to invest, it cannot be said that either the price controls or the tax increases will stimulate the investment climate.

On the right, the reaction is likely to be that the President is once again flirting with reform without having a solid base of support. On the left, there will be undoubtedly scepticism. There is something to be said for both views, and it may be that the best that can be done is to wait and see. The rise in some consumer taxes (petrol, spirits, road tax), but basically a price freeze until the end of the year and a freeze in public sector prices until the end of next March. Thereafter, follow-through, but not much

other groups of workers in a position not dissimilar to that of the seamen will be tempted to ask for at least as much. And the stretching of the language of the pay policy to previously undiscovered limits will doubtless strengthen the claim of the miners for a lower retirement age, which would mean a direct increase in the cost of their pensions.

This nibbling away of the policy is not the most dangerous of the side-effects. For what is most threatening of all in the fact that the seamen got their way—or part of it—after calling an official strike. They did not have to press the action; they won simply by showing everyone the size of their muscles. Other trade unions will read this in various ways, if the leaders still show an inclination to stick by the TUC's policy, then some of the followers might be less patient. It could be that much harder, for instance, for the AUEW to damp down wage demands from militant groups in the motor industry.

Disquieting

All these dangers are disquieting. It is true that there still stands the weight of Government and TUC opinion that the incomes policy must be maintained. The Public mood is probably still largely in support of this. There is a great deal of difference between the busting of a pay policy that has lost popular support by a single powerful group like the miners and a complicated stretching exercise conducted at a time when so many people

are beginning to realise that the economy could not stand another round of rapid wage inflation. Yet however carefully worded the settlement's terms may be, other interested groups will be studying them closely. It is not yet certain how they form of guaranteed week—is it will react but the danger of a the equivalent of a 60 per cent rush to break through the wage-rise on that item alone; many restraint policy is clear.

THE PURPOSE of the French economic measures announced yesterday is twofold. On the one hand, President Giscard and his new Prime Minister, M. Barre, are trying to forestall a major economic crisis, the threat of which has been accentuated by the drought and its harmful effect on French agricultural exports. On the other, they are trying to persuade the electorate that large-scale reform is under way, especially as it relates to the redistribution of wealth and the removal of inequalities. It must be open to question whether the two aims are achievable, at least within the time available.

Deadline
Time is limited because the political deadline is clearly the Parliamentary elections due in the spring of 1978. That means that the Government has little more than 18 months in which to reverse the trend of the cantonal elections earlier this year and the public opinion polls since, at least, which point to a Left-wing victory that would be profoundly embarrassing for President Giscard and might indeed make it impossible for him to govern.

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The Royal Commission on pollution has cleared the British nuclear programme—at least for now.

A clever bid to reconcile the irreconcilable

BY DAVID FISHLOCK, SCIENCE EDITOR

No U.K. Government "in spite of apparent com- would thank with any plausibility have on the whole sincerity" Sir Brian worked effectively." Yet it Flowers and his Royal Commission on Environmental Pollution for completing their report in January in its last self-imposed task of extending the public hazards that nuclear power stations may bring our society. It is true that its report "Nuclear power and the environment" is quite fulsome in praise of U.K. nuclear activities as they stand to-day. With minor reservations, when compared with the horrors that nuclear energy's opponents have been parading about existing nuclear dangers, the report finds that these activities are acceptably safe.

The outstanding reason why no government is likely to welcome the report is that it gives so little help with decisions relating to to-morrow's energy problems. It concludes that to abandon nuclear energy would be "neither wise nor justified" and even wants to see nuclear stations located close enough to centres of population for their waste heat to be used for district heating. Yet it argues that a major commitment to nuclear energy should be postponed "for as long as possible." It terms "major commitment," however, as defined only obliquely by reference to certain predictions that Britain could need as much as 20 times to-day's nuclear capacity by the year 2000.

The Royal Commission finds no intrinsic technical flaws with CFR 1, the U.K. nuclear industry's proposals for a commercial-size demonstration of the plutonium-fuelled fast breeder type of reactor—perhaps the most fiercely contested nuclear venture at present, not least because it will cost £600-700m. to build. But it pleads that it is "not for the Commission to propose or oppose development."

It clearly establishes that plutonium is not uniquely associated with the fast reactor, but is already being manufactured in Britain on a "tons-per-year" scale.

It is deeply perturbed at the idea of any plutonium falling into the hands of terrorists, yet finds the U.K.'s present security arrangements "acceptably tight."

The Commission argues, nevertheless, that Britain "should not rely for something that produces hazardous substances" on plutonium unless it is convinced that there is no reasonable certain economic alternative." The italics are dropped without comment from the report's slightly paraphrased conclusion.

It finds "nothing seriously wrong" with present methods of regulating the safety of nuclear installations and their effluents and emissions, which

calls for a new state-owned company to be established with responsibility for the disposal of all waste arising at nuclear sites."

On the question of "ultimate" storage of highly radioactive waste, it asserts that it is "convinced that an acceptable solution will be found." But it also states that plutonium unless it is at present no evidence that irradiation of the lungs by particles of plutonium is likely to be markedly more carcinogenic than when the same activity is uniformly distributed." It also rejects the allegation that safety standards for plutonium exposure and uptake are seriously in error and that serious genetic damage is done by reactor emissions.

The nuclear industry and the

Government which is spending over £100m. a year on nuclear installations and their development, and emissions, which

reactor—can certainly take heart from the large number of myths and falsehoods about nuclear hazards that the Royal Commission attempts to destroy. Its report acknowledges that the nuclear debate has "not always been well-informed" and that "sometimes relatively minor matters receive attention to the exclusion of others potentially more important."

In fact, the Royal Commission firmly rejects every major attempt over the past decade to condemn current U.K. nuclear contracts should reserve the right to return the highly radioactive waste—environmental interests would not be served by the return of resulting wastes to the country of origin." Yet it

is the Royal Commission's report that exposure of the public to radiation arising from the situation it finds on nuclear reactor safety with the public movements of plutonium could begin to pose a serious hazard.

It is the Royal Commission's report that the medical use of radia-

British reactor generators

1. Britain led the world after the war with the Magnox power stations. Nine in Britain burn uranium fuel; cheap and efficient power sources; the "workhorses" of the British electricity system.

2. Five advanced gas-cooled reactors (AGRs) being built in Britain. Initially plagued by design and construction problems, but the first two stations now being run at Hinkley Point, Somerset, and Hunterston, Scotland, working well and producing the cheapest power of any base-load power stations in Britain.

3. For the last two years Government has wanted the next generation of British nuclear power stations to be based upon the Steam Generating Heavy Water Reactor concept. Pilot reactor sited at Wimbleton, Dorset. Performance of the first AGRs makes it at least possible that the next station to be ordered may be to the same design, leaving SGHWR on the shelf.

4. Unlike the first three generations which burn up nuclear fuel, the fourth is expected to be of a radically different design—the fast breeder. If it works commercially this will be the ultimate power unit because it actually makes or "breeds" more fissile material than it uses. U.K. Atomic Energy Authority is running two prototypes at Dounreay, northern Scotland. The first is of 14, the second of 230 megawatt output. Authority now wants to build a full-size commercial station.

How seriously should anyone take this effort by a standing Royal Commission to pass judgment on a major aspect of U.K. economic and industrial policy? It is a unanimous report yet bears all the hallmarks of an ingenious endeavour at compromise between almost irreconcilable factions within the commission, in an effort to avoid minority reports. A report which, for the most part, is logically argued and sensibly presented, has been mischievously spiced with enough highly quotable phrases and contentious passages to assure nuclear energy's avowed opponents widespread publicity for their crusade. As a contribution to policymaking, it founders sadly when compared with the taut, emotion-free presentation of the recent study of major non-nuclear hazards.

The central complaint is that although all is well now, we can be sure that technological progress will continue to match the demands placed upon nuclear power in the future. The Government's answer may well be that the technology cannot match the demands, though the experts it consulted added that the yield of such a weapon would be "as much as a good judgment." The upshot is that serious genetic damage is done by reactor emissions.

As for the safety of nuclear installations, the report acknowledges that the "risk of a reactor explosion" is low, but the arguments as to be damaging and unacceptable to come.



Sir Brian Flowers (left) under whose chairmanship the commission prepared the report and his successor, Professor H. L. Kornberg.

MEN AND MATTERS

Shrinking pools

The surprising thing about yesterday's news that Zetters has done well in the Midlands since acquiring Leicester-based Soccer, but there are compensations abroad—in some West Indian islands betting on the English pools forms such a major outflow of funds that governments have started home-grown football pools in competition.

Ambiguous

A colleague of mine tried to book a hotel room in Stratford-on-Avon this week. With the tourist season not yet at an end this proved to be a pretty difficult exercise.

The comparisons can be hotels—all fully booked up—he started to work down the list of smaller hotels. Still he had no joy until he rang one particular hotel and asked whether there was a room available. Back came the stunning reply "Well... it depends on what time of day you want it and how long you want it for."

In Stratford on Avon?

Having tried all the major hotels and the smaller ones, he found that the tourist season was still on, and he had to wait for a room to become available. Back came the stunning reply "Well... it depends on what time of day you want it and how long you want it for."

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The not-so-hidden cost of import controls

ARE two theoretical traps in that they appear cost to import controls: the less on a superficial view: imports are replaced by domestic output, total production grows by a multiple of the imports replaced, there is no exchange rate pressure on the cost of living, and extra resources are whistled up to meet real wage claims in an anti-inflationary way. It is unfortunate that the whole true cost of import controls, in curtailing choice and competition and intensifying the British sickness, cannot be quantified.

But economists can quantify at least a few of the costs. In an article on April 1, I referred to work which was being done on the subject. This has now surfaced in the shape of a notable pioneer effort by two National Institute economists, Mr. R. A. Batchelor and Mr. A. P. L. Minford, which have prepared for Trade Policy Research Centre.

The search for a cause for so-called dumping being intensified.

galloping route is that

led by the Cambridge

Policy Group and the Left. This involves the

across-the-board slashing

orts as part of a so-called

one, at least, as there is

of an IMF application

here is little chance of

loping route being taken.

act the most likely

is that of the trotting

the gradual extension of

on present lines.

t deposits are a strong

sterling looks like falling

below \$1.70. The stir

at this week's Labour

Committee was due

misunderstanding of Mr.

han's reference to import

targets which the

would like the Sectoral

Groups to prepare, and

which the Department of

try has obediently been

some work. But if the

of economic panic in

the pressure to enforce

targets will grow.

great temptation of con-

TARIFF EQUIVALENT OF IMPORT CONTROLS	
Cumulative deficit to be eliminated (per cent of GNP)	Required tariff rate (per cent)
0.5	6
1.0	12
1.5	22
2.0	33
2.5	47
3.0	66
3.5	76
4.0	144
4.5	240

Source: Batchelor and Minford

Projection

The authors begin with a schematic projection of the national accounts in 1980, of a now familiar kind, reproduced in the first table. It is assumed that any attempt to achieve "full employment" would lead to a £30m. current payments deficit, assuming "constant competitiveness." The two options (apart from doing nothing or borrowing) appear to be further devaluation and import controls.

My own view is that this is an assumption too favourable to import controls; and that a restoration of the market mechanism in industry could lead to big improvements in competitiveness at an exchange rate which did no worse than reflect international differences in "consumer surplus." But the clue to it is that import controls

analysis ignores the attractiveness of a low wage country tariffs of equivalent effect, as a first step to quantifying the damage.

Even within the conventional framework of the table, import controls have *prima facie* disadvantages. While devaluation roughly in proportion to international trading advantages, import controls would be a deliberate distortion and could not be removed in the 1980s without creating severe local pockets of unemployment.

The main deficiency of national income arithmetic which the Batchelor-Minford paper aims to remedy, is that it makes no estimate of the resource misallocation from producing goods at home which could be more efficiently obtained in exchange for exports in international trade. The method of measuring this loss is somewhat complex, and involves the technical notion of "consumer surplus." But the main view is that this is an assumption too favourable to import controls; and that a restoration of the market mechanism in industry could lead to big improvements in competitiveness at an exchange rate which did no worse than reflect international differences in "consumer surplus." But the clue to it is that import controls

are converted to hypothetical such as the U.K. would have for international private capital, if only a modicum of confidence could be restored.

The authors assume in line with Whitehall that controls are imposed on consumer goods and on "light finished goods purchased by firms" such as tables, stationery or clothes. Import penetration of consumer-type goods is estimated on 1974 figures at 17 per cent of the domestic market (21 per cent for consumer goods narrowly defined). The imports in question make up 28 per cent of total imports of goods or 5 per cent of GDP equivalent to about £5bn. at 1976 values. The fact that in 1976 £1bn. happens to equal about 1 per cent of GDP does help to grasp what the percentages actually mean.

The second table gives the authors' estimates, based on standard international trade elasticities, plus assumptions about the price responses of domestic suppliers, of the extra tariffs required on these consumer-type goods to save exports relative to imports.

Batchelor and Minford assume that the higher annual costs of

Alternative Medium Term Strategies for 1980

£BN. 1976 PRICES

Strategy	National Accounts					Current balance		
	Consumption	Investment	Exports	Imports	GDP	Terms of Trade	Constant prices	
A Unemployment + No corrective action	88	10	36	30	98	100	0	0
B Full employment + deficit	90	13	30	33	100	100	-3	-3
C Full employment + devaluation	84	13	36	33	100	90	-3	0
D Full employment + import controls	87	13	30	39	100	100	0	0

Source: Batchelor and Minford

144 per cent tariff would eliminate 80 per cent of imported consumer goods. This would raise domestic prices by 7.1 per cent. A 28 per cent devaluation, to achieve the same result, would raise prices by 7.6 per cent. It is, I hope, unnecessary, to emphasise that it is not the exact figures which matter but the demonstration that import controls do not magically escape the disadvantages of devaluation.

All these calculations make the extremely optimistic assumption that import licences would be auctioned to the highest bidder. This would minimise the damage from the controls and prevent the quota holders from reaping windfall profits. If, according to normal practice, licences were given on the basis of historical shares, the real costs would be higher; and either prices would rise in fringe markets, or queues and shortages would penalise the home buyer even more severely.

Delaying

Import deposits which are much more likely in the near future would be smaller both in their impact and in their damage. Their real disadvantage is that they would be yet another delaying tactic; and that there would be no foreseeable time when the deposits could be repaid. In the end there may yet have to be a choice between "doing an Erhard" and attempting a full scale siege economy.

The Cost of Import Controls and Derealisation as Medium Term Policies. To be published soon by the Trade Policy Research Centre, 1, Gough Street, EC4A 3DEA, to appear at the end of October.

Letters to the Editor

ublic sector pensions

Mr. A. Furse. — Mr. R. G. Smith, the pension manager of British Steel Corporation has kindly confirmed (ember 17) that BSC — the other nationalised industries — has made amendments to their pension schemes where by future pensions are indexed to rise with RPI. I am most grateful and my statement (September 1975) from "these increases" to "these losses" are unfounded and will be almost entirely by the serial customers of BSC and as a result of assistance by the government.

My pension increase which has not been paid for prior to the 1st April and to the topping up process necessary to keep a pension fund when it distributes unused increases to retired members "funding" its Orwellian speak. No insurance company will even quote for funding indexed pension in advance no actuary would advise to do.

Like the Post Office and the Rail can charge what it to pay for its generosity customers. BSC's 1976 prices are increased for the third in October, and even its agreement with the sure whereby it makes a replacement provision valid and in addition to the pension does not provide any cash flow to prevent it on the Government (or banks with Government financing) for the funds to finance larger developments. What terrifying is the sheer scale the burden which indexation public sector pensions is imposing on the nation as a whole. See Book Table 1/10. Employment by Sector gives the figures for 1975:

Population ... 104% 24,862,000
Public sector ... 8.84 2,868,000
al government ... 11.25 3,024,000
Armed forces ... 7.75 1,200,000
Total ... 1.35 336,000

Indexed increases paid for extra by Government ... 21.12%
extra increases paid for by public corporations out of rates raised to cover the rates and meet the needs of the armed forces ... 4.8%

My cost is horrific. Assuming those receiving pensions are a sixth of the number employed, and that new pensioners receive pensions equal to or higher than the pensions terminated by death, increases for 6 alone at £2.40 per week will cost over £150m. The re-uses are cumulative, and if led to the cost of increases between 1973 and 1976 (£233m.) bring the total to £584m. annum, rising at over 10 per annum cumulative.

Of this 70.85 per cent is paid directly or indirectly by private sector employees who get benefit — £33 per head in unclaimed cover outlay which is inflationary or yet another a grave injustice and should ruthlessly exposed.

Anthony Furse, Moid, Flintshire.

Airline backup.

Mr. W. Norton. — Tucked away in today's paper (September 20) was news of a survey that Swissair has published on the world's airlines which had the most astonishing statistics which may have gone unnoticed.

Loaded with humbug

From The Editor, Plant Engineering and Maintenance.

Sir. — Prof. Bryan Harver, who chaired the "committee of experts" on industrial hazards (David Flaherty, September 14), and who is acknowledged as probably our leading safety expert, has done a magnificent job in preparing this report which should be closely studied for its recommendations.

But has anyone stopped to consider the cost? Prof. Harvey's job is safety and he does it very well, but industry's job is to create wealth and the two objectives often clash. Management has a heavy responsibility in making decisions which may affect human lives and it has become fashionable to go to ridiculous lengths (and costs) to prevent accidents. Has anyone worked out what safety has cost in the nuclear power business?

I am not suggesting that human life is unimportant but I am seriously questioning the balance of judgement as I feel we are getting loaded with humbug. About 7,000 people are killed on our roads every year and many times this number are injured but no one has suggested that we should eliminate roads. Roads 22 killed at Flitwick have set off a chain of events which might inflict such penalties on the chemical industry that it will become uncompetitive in world markets.

My point is that while an industrial explosion is a tragic disaster, an economic disaster can cause far more human suffering but are we in danger of ignoring this because it is not so newsworthy?

So why all the silence? Or is it a case of keeping quiet and being thought a fool, rather than speaking and leaving no possible doubt?

H. R. Hesp. — Plant Engineering and Maintenance, 57, Southwark Street, S.E.1.

Priorities of the City

From The Managing Director, Cowson Rubber.

Sir. — Let's remarks (September 20) apropos the rescue of Slater Walker that there seems to be one law for the banking system and another for everyone else. Would it be irrelevant to reflect that over the last two years our currency has depreciated against the German currency by approximately 28 per cent?

At the outset of this period readers will recall the British Government refused to extricate Rolls-Royce which had run into liquidity problems not unlike those faced Slater Walker or a myriad of fringe banks and insurance companies that survived of "bank" is vastly more important than that of a major industrial enterprise. By contrast in Germany when Krupp over-extended itself

Overseas trade fairs

From the chairman, Export Council for the Jewellery and Giftpack Industries.

Sir. — I feel that you may wish to bring to the attention of your readers the recent decision of the British Overseas Trade Board to constrain the financial assistance to exporters participating in Trade Fairs overseas.

Participating in these Trade Fairs is the very foundation of our industries' exporting efforts and in an industry which contains a large proportion of smaller manufacturers, it is with considerable alarm that we learn that we are expected to cut back 25 per cent. on the forthcoming year 1977-78.

This year has been officially designated Export Year and with this in mind we can hardly expect our industry to put their backs into it with the knowledge that official encouragement and support will restrict their efforts in the forthcoming financial year.

Finally, it might be time for

Liberalism to come to the rescue.

From Mr. T. Wise.

Sir. — David Steel's speech at Llandudno was a great personal success, re-establishing the crusade for a more free, equal and caring society, tenets most dear to all Liberal hearts. He was loudly and rightly cheered when he said that Liberals must not be afraid to "sell" their hands in a coalition, if that is what it takes.

Looked at from this point of view the demonstration mainly by the Young Liberals against a coalition takes on a more realistic aspect and should not be too readily dismissed as "youthful idealism."

Finally, it might be time for Liberals to consider more carefully Jo Grimond's advice that "Liberals should not be afraid to bust the system" and apply it to party reform rather than electoral reform or devolution. The abolition of the Whips Office would do more to restore public and regional confidence in central government than any other single act.

T. M. Wise.

Tea Tree Cottage,

Crookley Down, Redbridge, Essex.

Funds for charity

From The Prospective Parliamentary Candidate, Hornsey and North Finchley Association.

Sir. — It is a curious reflection upon the mentality of Frank Field (September 20) that he and others should campaign for the "cost" of tax allowances to be investigated as part of a scheme to squeeze further funds "to pay for reform."

Surely he realises that while we are in our present struggle against inflation none of us can afford to improve our standard of living; not the low wage earners, nor the medium wage earners, nor one. The tax system, which may be seen as an engine of poverty for an increasing army of the low paid, is just as efficient, indeed more so, as an engine of poverty for the diminishing army of the once high paid. For this reason, significantly, the contributions to charity are diminishing and may dry up. High taxation on companies and individuals diminishes the amount of funds available for charitable purposes.

The real cost of our present

society is the realisation that

we have protected the poor from

The Villa,

COMPANY NEWS + COMMENT

Laporte recovers to £5.27m. at halfway

FIRST HALF 1976 sales of Laporte Industries (Holdings) expanded from £20.07m. to £30.96m., and pre-tax profit recovered from £1.24m. to £5.27m. and is in excess of the depressed £4.28m. for the year to December 29, 1975.

Earnings per 50p share for the six months increased from 1.65p to 6.64p and from £1.90p to 6.37p after extraordinary items.

The interim dividend is stepped up from 1.2p to 2.15p net per share. Last year's total was 3.8p, compared with 4.95867p for 1974, when the profit was £1.24m.

The results achieved in the first half are primarily due to an upturn in demand for the company's products and to the continuing efforts which have been made to contain costs and improve efficiency and productivity, the directors state.

The increase in demand substantially occurred outside the U.K. The group also benefited from movements in exchange rates.

With only minor exceptions, the profitability of every product increased. The group's business (Interex) processed 2,000 tonnes of titanium dioxide pigments, phthalic anhydride and other products was strong.

"We believe that the result for the full year, subject to circumstances beyond our control, will be satisfactory and will show the considerable progress made by our company in 1976," the directors add.

HIGHLIGHTS

The first half at RTZ is in line with expectations with a big recovery resulting from higher copper prices and a turnaround in lead and zinc production. Laporte has also shown a big recovery with demand boosting production levels while for the full year a considerable increase in profits is expected. Lex also takes a look at the latest developments in the Tate and Lyle bid for Manbre and Garlan. Booker McConnell, with a good first half under its belt, has now upgraded its original estimate of a small decline to some growth. Central Wagon has shown a considerable turnaround from the losses of the previous six months with stock profits playing a useful role. Elsewhere Zetters has acquired Copes Pools but in its own first-half figures there is a noticeable drop in pools business.

and perhaps 1p net, giving a 6.6 per cent gross yield, is a more realistic expectation.

Tilbury Contracting just ahead

ON TURNOVER up from £13.68m. to £15.3m., pre-tax profits of civil engineers etc. Tilbury Contracting Group show a marginal rise from £1.07m. to £1.14m. for the first half of 1976. Profits for all of 1976 are expected to be £2.05m.

The chairman, Mr. P. Edgeington says profits were maintained despite the exceptionally difficult conditions in the construction industry. In the circumstances the order book may be regarded as satisfactory, he adds.

The interim dividend is lifted from 5.5p to 6s net per £1 share. Last year's final was 11.0331p.

Six months Year

	1975	1976	1975
Product sales U.K.	34,899	35,000	33,000
Amesha	4,881	5,125	7,247
Total sales	39,779	39,825	32,249
Trade	38,779	38,825	31,778
Special depreciation	2,817	2,854	2,471
U.K. profit	2,817	2,854	2,471
Australia, less	212	228	228
Other overseas profit	3,624	3,677	3,637
Total trading profit	6,247	6,337	6,337
Laporte interest	761	830	1,063
Associates	212	161	161
Profits after tax	5,515	5,228	4,228
Taxation	2,785	2,678	2,678
Net profit	2,728	2,550	1,550
Extraordinary items	18	22	22
Attributable Ord.	2,862	2,572	1,572
Ordinary dividend	1,965	2,028	1,572
Retained	897	544	984
* Credit			

The tax charge comprises £5000s omitted) £882 (£199 credit and £261 charged) on profits of Laporte and subsidiaries, £286 (£165 and £228) on dividends from associates, and £1,873 (£723 and £1,378) associates. Overseas tax accounted for £1,222 (£808 and £1,332).

See Lex

First half rise at Readymix

ON TURNOVER up from £3.25m. to £3.83m., pre-tax profits of Dublin based Readymix advanced from £208,292 to £283,113 in the first half of 1976 and despite pressure on margins the directors are hopeful of an improvement for the full year. Profits for 1975 were £861,753.

After tax up from £133,101 to £219,258. Half year earnings rose at an adjusted 2.89p to 3.04p per 10p share, and the interim dividend is effectively raised from 0.975p to 1.030p net. Last year's profit total was equal to 4.35p.

The directors say that continuing pressure on prices has not continued to put pressure on prices in the absence of a price increase in July, will undoubtedly have an effect on margins. This is already has increased market share to

William Whittingham improves

A MUCH reduced pre-tax loss of £32,000, down from £361,000, is reported by William Whittingham (Holdings) for the half year ended April 30, 1976. Group turnover was up from £4.09m. to £5.65m. and the loss is struck after deducting interest of £634,000 (£834,000) and the loss of the photographic division of £263,000 (£222,000).

The chairman, Mr. W. T. Whittingham, says that the results for the half year do not warrant the payment of an interim dividend, but he is hopeful of recommending a return to the dividend level with the year's results.

In the year ended October 31, 1975, the group incurred a pre-tax loss of £903,163, and no dividend has been paid since the final of £1.8725p net per 12p share for 1973.

Half-year

Year

1975 1976

Turnover 3,000 3,830

Profit before tax 3,000 3,830

Interest including 335 499

 loan stock 1,421 1,421

 Photographic 634 834

 Less before tax 2,665 2,500

 Tax 20 20

 Loss after tax 2,645 2,478

Attributable profit 1,708 2,028

Attributable profit - Loss

Mr. McWatters says efforts to streamline the company are taking effect, and have resulted in the development and property companies producing profits of £1,000,000 for the first half of the year. This compared very favourably with the profits for both the first half and the whole of last year.

Trading conditions, in housing, still depressed, have varied directly with the availability of mortgage finance, but hopefully they will improve when the glut of secondhand houses, on sale at current prices, clears out the chormarket.

The film processing industry is experiencing a substantial downturn in volume, while Colorstrand

sales are likely to rise in

the second half.

In the U.K. considerable problems still persist in the footwear manufacturing industry generally and great efforts are necessary to maintain reasonable output and profit levels, he adds.

• comment

Ward White's profits have continued to recover and the shares acknowledged the figures with a 4p rise to 24p. However, turnover in the U.K. remains very dull with volume down a tenth, and shoe manufacturing is still making a small loss. Cutbacks in production and overheads were implemented last year's turn-around, and now the group is hoping that trading up out of markets where competition from cheap imports is fierce will enable it to make up some more lost ground. For the time being the U.K. business remains in the doldrums and full-year profits will probably be around £600,000, down from the previous year. Turnarounds meanwhile remain around 210m., with no reduction since last December when gearing was 170 per cent of shareholders' funds, so the latest rise in interest rates will have a significant effect on the second half. Earnings of 6p (for a prospective p. of 4) would enable a full recovery in the net dividend to 2.45p, but this seems unlikely

Earnings fall at Empire Plantations

A TURNAROUND from a loss of £495,000 to a pre-tax profit of £1,000,000 is reported by Ward White Group for the first half of 1976, and the chairman, Mr. George McWatters, is optimistic of an acceptable result for the full year. The year-end loss for 1975 was £148,000.

First-half earnings are shown at 3.7p per 25p share and the interim dividend is 0.5p net. Last year the single final payment was 0.25p.

Half-year

Year

1975 1976

Turnover 2,000 2,000

Profit before tax 1,000 1,000

Interest charges 817 840

 Profit before tax 817 840

 Tax 178 178

 Loss after tax 639 662

Attributable profit 519 519

Attributable profit - Loss

Mr. McWatters says the improved results have been achieved against the background of an economic difficulty in the footwear manufacturing industry caused by the growth in imports and the general trade recession which has affected domestic demand.

Sales by the overseas division rose by 22 per cent, largely reflecting the improved climate of trade in Europe, and this growth contributed towards the increased group profit.

Orders in the engineering division have shown an improving trend and a further increase in profit has been achieved.

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Maynards falls to £1.12m.

A FALL in pre-tax profits from £1.41m. to £1.12m. is reported by Maynards, the confectioners, for the year ended June 30, 1976. The profit is struck after an exceptional credit of £65,127, against a debit last year of £100,664.

At half-time, there was a reduced pre-tax profit of £786,000

equivalent after allowing for scrip issue. + On capital increased by rights and/or acquisition issues. (a) Gross. (b) To be paid when sufficient funds are available. (c) Corrected.

of industry to invest in new equipment. He said that falling demand had also affected car sales but Woodward was looking for an increase in market share; also an increase was expected in unit sales of its confectionery products.

An interim dividend of 4.5p net (same as already been declared last year's final was 1.5p.

The chairman of GT Japan Investment Trust, Mr. W. T. Griffin, says that Japan still presents one of the most promising stock markets over the medium to long term and the directors look to the future with confidence.

As reported on September 13 pre-tax profits advanced from £24,000 to £102,427 in the year to June 30, 1976, and the dividend was 1p per 10p share.

During the year the net asset value per share increased by 35 per cent to 14.5p compared with the progress shown by the Tokyo Stock Exchange Index over the same period of 7.7 per cent. The company has remained fully invested during the year and a large part of the gain in the net asset value resulted from the depreciation of sterling against the yen in which currency the majority of the investments have been made. Although the cost of maintaining these foreign currency borrowings has increased during the year (because of the depreciation of sterling) this has been more than offset by a higher return on the bonds and other securities held.

Griffin has continued to rise and this coupled with the withdrawal of substantial excise concessions led to a small reduction in the profits of the Indian business.

The expansion of tea areas and the programme of factory modernisation is continuing satisfactorily, but much still remains to be achieved and capital expenditure will remain heavy over the next few years.

The current season has started poorly with uns

Blyvooruitzicht Gold Mining Company, Limited

(Incorporated in the Republic of South Africa)

The following is from the Statement by the Chairman, Mr. A. C. Petersen:

During the year under review, the dollar value of gold remained consistently low relative to the price obtained in the previous year. Devolution of the Rand in September 1975, resulted in a Rand price per kilogram of gold that was only marginally lower than the average for the previous year. However, the effect of devolution was to raise working costs from R18.71 to R18.80 per ton milled. The mining industry faced up to the need to increase Black wages substantially, but the restraints placed on the increases in White wages and the prices of equipment and stores purchased within South Africa, in terms of the anti-inflation manifesto, were vitally necessary to preserve the viability of a large section of the industry. The further dramatic fall in the price of gold since the second half of 1975 by the International Monetary Fund will necessitate strict economies on all mines, and in many cases will result in severe reductions in capital expenditure or dividends or both.

In the case of Blyvooruitzicht, very heavy capital expenditure is anticipated during the next two years, mainly on completion of the new eastern complex that will provide the mine with one modern hostel and enable the remaining two which were built to pre-war standards to be modified, and on the extensions to the uranium plant to treat material recovered from Nos. 1 and 6 slimes dams.

The remaining capital expenditure will be on the continued sinking and equipping of Nos. 85 and BSA inclined shafts which are required to open up the western section of the mine, on cooling plants to produce acceptable temperature and humidity conditions on power and transport extensions and many other items, none of which can be topped.

The extension to the uranium plant is particularly important. As members are aware there is a rapidly rising demand for uranium with a considerable improvement in the world market price. The production capacity of the present plant is fully committed for some years to existing sales contracts but the recovery of additional quantities of uranium from Nos. 1 and 6 slimes dams, which were not previously treated for the extraction of uranium, in the new section of the uranium plant will enable the company to take advantage of the resurgence in demand. The increased profits from the production of uranium oxide after 30th June, 1977, will go a long way towards offsetting the decreasing profits from gold recovery.

Progress during the year on the extension of the uranium plant has been satisfactory. It is now estimated that the total cost of this extension will be approximately R10.5 million, and it is expected that it will be commissioned during the financial year commencing 1st July, 1977.

Copies of the Annual Report and Accounts can be obtained from the office of the London Secretaries, Charter Consolidated Limited, 40 Holborn Viaduct, London, EC1P 1AJ or from the Share Transfer office of the London Secretaries, P.O. Box 102, Charter House, Park Street, Ashford, Kent TN24 1EQ.

In the long term I am confident that the demand for uranium will remain strong. It would seem that the world's existing ore reserves, and total production capability, both existing and planned will be insufficient to meet the demand. There may however be minor unexpected fluctuations in the price trend between now and 1985, from which

it is estimated that demand will consistently exceed supply. The company's current sales negotiations have been planned against this assessment of the market development.

Allowing for inflation the anticipated capital expenditure during the year ending 30th June, 1977, will be approximately R16 million with a little more than half of this amount being spent in the following year. The recent increase in the tax surcharge and the loss levies on additional heavy drains on the cash resources of the company. If the loss levy is included with the State's share of profit and tax, the effective claim by the State on marginal mining revenue amounts to 73.98 per cent.

If no substantial rise in the gold price occurs during the next two years, the dividend will have to be substantially below the level paid in the year ended 30th June, 1976.

Although the industry was threatened with a continued severe shortage of labour as a result of the withdrawal of the recruiting facilities in Malawi, a partial disruption of the supply of African labour this was largely overcome by a very effective intensification of the recruiting campaign by the Mine Labour Organisations in the Republic and in Lesotho, Botswana, Swaziland and Rhodesia. The response by South African labour was particularly gratifying.

The average underground labour strength on Blyvooruitzicht for the year was 94.1 per cent of the mine's requirements.

The possible introduction of a five-day week has proved to be contentious. The gold mining companies, and all the unions realise that neither the industry nor the country can afford any loss of production at the moment but there are great differences of opinion about whether or how a five-day week can be worked while still retaining the present level of output. I am convinced that the solution lies in the correct and total use of all facilities available to the industry. The present artificial restrictions on the use of Black labour not only limit the possibility of moving towards the five-day week goal but also produce the frustration amongst our Black workers that further lowers their efficiency and leads to the type of unrest plaguing the Republic of South Africa at the present time. If Government legislation and the Unions would open the door to the training and employment of all the peoples of the Republic, not only would the mining industry be able to move towards a five-shift week, but the total economy of the country would be strengthened that the job security and job opportunities for Whites, so carefully guarded by certain sections of the community and by legislation, would also improve.

An analysis by activity of external sales shows (1000 omitted) steel subsidiaries R2.239 (13.76) and R10.366 (steel asso-

Central Wagon in profit with £76,000 so far

IMPROVING results are reported by Central Wagon, the steel stockholding and engineering group. Following a loss of £233,000 before tax for the second half of 1975, leaving full-year profits of £1.31m, pre-tax profits were £76,000 for the first six months of the current year. This is after an exceptional cost of £180,000 relating to reorganisation of the group's hydraulics business.

The chairman, Sir Frank Fugure, says an improving trend had clearly been established. However, because of the low level of current earnings and the need to conserve working capital, the Board is not declaring a dividend at this stage. "In the longer term we are confident of the group's future," says Sir Frank.

Our Board believes that our dividend policy should reflect current earnings," he adds. Last year there was an interim of 6.6p but

no final dividend. The group's turnover in the first six months of the year ended June 30, 1976, was £1.31m (1.318) and £1.43m (1.438) and other engineering profits £1.31m (1.318) and £1.43m (1.438). Parent company expenses took £68 (68) and £62 (62) and minorities £74,000 (74,000) and minorities £74,000 (74,000). The attributable balance emerged at £97,300 (97,300).

Profit before interest and tax was split as £1,000s (omitted) Steel: subsidiaries £374 (322) and £298; steel activities £1.438 (1.438) and £1.438; engineering £1.438 (1.438) and other engineering £1.438 (1.438) and £1.438 (1.438). Profit on sale of leasehold land added £38 (nil), while exceptional costs of reorganisation at Tangye-Epec took £189 (1.189) and £189 (1.189).

The group has reorganised its hydraulics business into two autonomous units, Tangye and Epec. It will be some time before Epec makes a positive contribution. But the Board is confident that Tangye-Epec will be a steady improvement.

In other areas, the steel stockholding business, R. G. Brown and Co. is expected to improve strongly during the rest of the year, while the engineering companies, Cowper and Farrell and Central Wagon (Engineering) are making satisfactory progress.

Both the associated stockholding companies, R. G. Brown (Stainless Steel) and R. G. Brown (Pipelines) are expected to make higher profits in the second half, but no contribution is expected this year from the joint Spanish tube mill venture.

Profits in stockholding activities depend on varying supplies and quantities of a wide range of material, which has increased in cost by 30-35 per cent, this year; we are though it may be as signifying the end of the recession, this steep rise in steel prices has inevitably increased pressure on liquidity, says Sir Frank. In view of the company's existing capital structure, it has had to rely on the normal banking facilities to cover the sharply increased working capital requirements for steel stocks.

A large proportion of capital is employed in areas where currently returns are either non-existent or inadequate, the chairman tells members. It is the Board's firm intention to ensure that all investments produce realistic returns as rapidly as possible, he decides.

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INTERNATIONAL COMPANY NEWS + EURO MARKETS

France unveils State plan for computer sector

BY RUPERT CORNWELL

PARIS, Sept. 22.

FRANCE has officially unveiled its grand design to reorganise the country's mini-computer and peripheral sector, including special "growth" contracts between the State and the three or four groups it hopes to foster within the industry.

The programme was presented by M. Michel d'Ornano, the Industry Minister, on the eve of the SICOB, the week-long exhibition here centred on mini-computers and office equipment. It is hoped that overall turnover in the sector might rise to Frs.3.5bn. (£400m.) by 1980 from Frs.1.8bn. in 1974.

The first concrete step has just been taken with the signature of a 30-year agreement between the Government and Societe Europeenne de Mini-Informatique et de Systemes (SEMS), the holding company controlled by the Thomson Group, and comprising the leftovers of CIS, the Government-backed mainframe computer manufacturer which was merged with Honeywell-Bull earlier this year.

Simultaneously, Thomson—which is intended to become the linchpin of the French mini-computer industry—has announced a reorganisation of its own activities in the sector. This will embrace SEMS, the relevant business of La Teli-

meccanique, as well as the group's other disparate peripheral interests.

M. d'Ornano also gave a clear hint about the identity of at least two other groupings he has in mind. They are Lagabey, the main subsidiary of the CIE Generale de Electrique, CIE Transo and Sintra.

"Growth" contracts might be signed reasonably quickly with these companies as well, he said. In all some Fr.800m. (£94m.) of official help is available, although of this sum Fr.200m. has been earmarked for the conversion of CIS' Trouville factory, left out in the cold after the merger with Honeywell.

The sector is advancing in great strides, and boasts a rate of expansion of between 30 and 40 per cent. a year. However, the authorities here remain worried by foreign penetration of the domestic market which has been put at up to 70 per cent.

In the longer-term, M. d'Ornano is prepared to countenance links with other European companies in specific areas where French technology is weak. In the meantime he expects domestic mini-computer competition between the new companies and CIE-Honeywell-Bull, which recently did not exclude its own entry into that arena.

SELECTED EURODOLLAR BOND PRICES

MID-DAY INDICATIONS

NOTES	Bid	Offer	American Corp. 1984	1982	London
Austin Corp. 1984	100	101	North. White. Wild. Securities	102	102
Brewer Corp. 1984	102	103			
Brown Corp. 1984	102	103			
Brus. Corp. 1984	102	103			
C.N.E. Corp. 1984	100	101			
F.I.C. Corp. 1984	101	102			
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FINANCIAL TIMES REPORT

Thursday September 23 1976

STANDBY POWER

With the growing need to conserve energy, greater emphasis has to be placed on the design and manufacture of auxiliary and standby power equipment.

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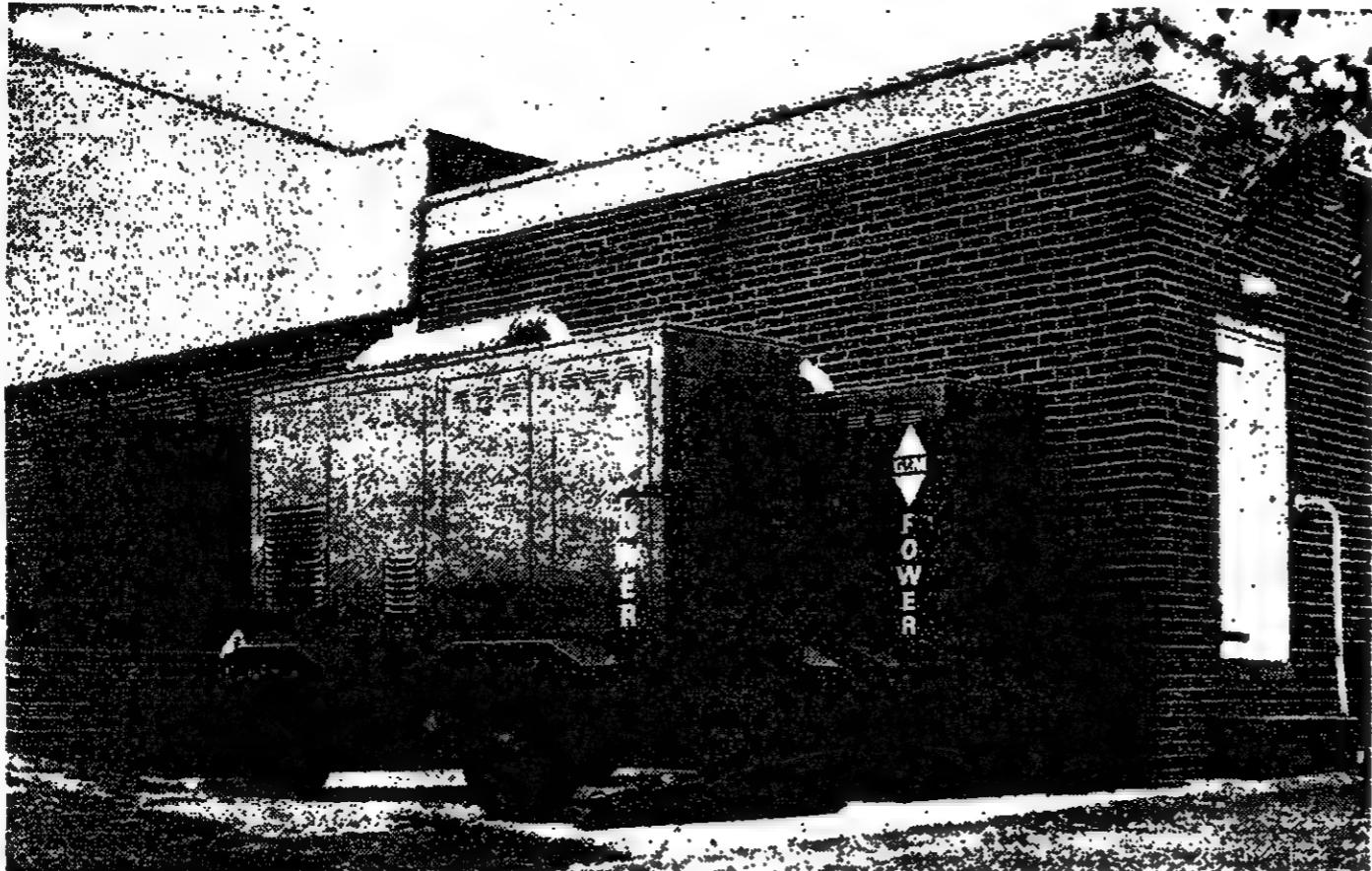
FIRST GLANCE, there is much of a link between the action of standby power factors and the provision of power from "free" auxiliary sources—wind and waste heat in due and reject process water, with the rapidly increasing use of energy and the need to use the best application of otherwise under-employed yet massive capital equipment in the sectors must inevitably be much closer together.

There is no particular reason why the standby battery should be topped up from solar cell power or windmills or auxiliary/standby power. They should not be handled by industry and suppliers as a separate problem. This is undoubtedly the thinking behind the recent link between the Electricity Group and Industrial Instruments of Hastings who make windmill/generators, solar cells and inverters for home industry.

rials

But comparatively little encouragement is being given by spokesmen for government to its many advisory bodies on anything much other than coal and nuclear, which is hardly surprising, since they retain a certain number of others turned gamekeepers, lead one senior civil servant slightly puffed-puffed solar power possibilities on the very day the U.S. Congress passed a law making \$1bn. available to solar power developments, while the latter's ERDA organisation is funding a whole series of wind power trials which will add up to perhaps 1% of the figure in venture.

Perhaps there is a new Parliament's Law to be written to effect that "Committees are proportionate in number in the problem and progress of solving it proceeds in inverse 80 per cent. responded. The



Two generators supplied by G and M Power Plant of Ipswich which can be moved as required to provide standby power. They are trailer mounted for greater mobility.

ratio to the number of committees." The Select Committee on Science and Technology must be excepted, however.

It is lunacy to say the U.K. "must progress with nuclear power" when the Generating Board does not need to order any type of station for four years and there still is no decision as to what type to build. But the Americans, who have taken an enormous share of the world atomic market, are already making serious estimates of their solar energy and wind power equipment exports up to the middle of the next decade and, of course, they run into billions. Without a solidly based domestic development programme, the U.K. will not be able to follow suit.

There may, of course, be other reasons for this apparent reluctance of advisory bodies to move outside the pale of the conventional. The DoE, in a much-needed national survey of stand-by power published last month, provided some highly interesting figures showing that of the 42,000 companies with over 20 employees, that is virtually all the U.K.'s manufacturers, solving it proceeds in inverse 80 per cent. responded. The

remainder could be taken not to a level where the average household can afford them for an appreciable fraction of the nation's installed capacity. It will then need a Solomon to decide between the merits of through cost, for spacecraft industry.

It is, of course, easy to paint a picture of a Britain distinguished by thousands of giant windmills poking their gaunt arms over every pleasant hill and valley. But the towers of the power grid and the stacks of the big coal-burning stations are certainly no more aesthetic. If the Danes, the Dutch and Americans and even the Canadians with their vast reserves are convinced that wind power can carry out pumping and/or electricity generation tasks is worth developing and economically attractive against projections of the cost of power from other sources where is the argument?

A few years ago, a survey of on-site power generation concluded that many electricity consumers with a maximum power demand of 0.5 MW and upwards could profitably run their own generation and the consumers whose operations were such that they could use the reject heat from the diesel engine or turbine driving the generator would, by so doing, cut the cost to themselves of fuel by half.

The study also said that fuel and capital investment, viewed as national resources, would be better employed if on-site generation were more widely used, which was somewhat akin to the Generating Board disregarding its claimed statutory function to supervise the generating plant industry and carry out research into new forms of power generation.

A case is being made that if demand for electricity falls further the CEBG will be unable to operate its stations economically. This can hardly be true in the light of merit running. What is true is that there is a backlog of expensive mistakes to be corrected for which money must be earned.

In the meantime, the number of industrial and commercial installations where standby power—and frequently uninterruptible power—must be provided is growing quickly. Apart from continuous processes and production lines running on shift work, there is the growing army of computers used as the central brains of big companies.

Functioning as important nodes of the companies' management and information systems, they contain data and procedural instructions which take a great deal of time and money to reassemble should the central computer go down because of a power failure, or even because of an upward voltage fluctuation.

There can be no argument as to whether or not British industry or private consumers need "free" power, despite the North Sea gas and oil euphoria. The Energy Research Group at the Cavendish Laboratory, Cambridge, in a paper just released by DoE, warns of an impending world energy scarcity and that in 1990 the U.K. will cease to be able to export energy.

Cavendish made four projections, each assuming different world and U.K. growth conditions and supply levels. All gave the same answer—that there will be no import requirement for gas, oil and—unbelievably—coal by the year 2000.

But Cavendish in its recommendations does not mention alternative supplies of power which is disappointing to say the least, especially for such companies as Ferranti who are seeking to cut the cost of solar cells

solar house idea really catches the imagination of the public—and energy bills need move only a fraction higher for this to happen—suppliers of primary fuels could face problems too.

At present, an installation capable of supplying the hot water needs of the average home can be amortised over three to five years. Soon this figure will drop with the advent of more DIY equipment. All that is needed to complete the picture on the home front is a breakthrough in solar cells (already claimed by Sandia Corp in the U.S.) and an unobtrusive design of windmill (pioneered by Reading University) coupled with compact storage batteries of the type now under development in many countries to supersede lead-acid.

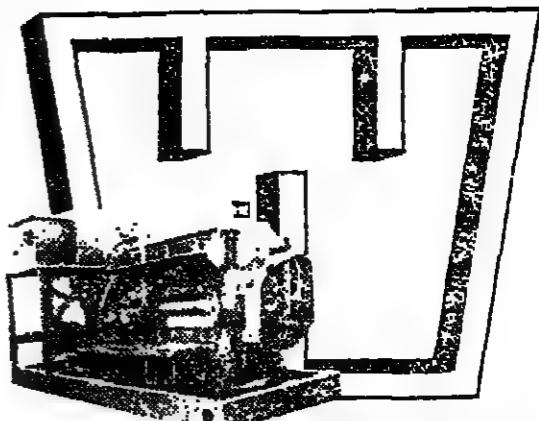
Insulation

This is not futuristic. Minimum environmental burden house projects are in hand in several countries and solar house projects in most, including four in the U.K. The prospect will not please any central supply authority, particularly now that proper attention to house insulation seems likely to reduce the central heating burden from a steady 12 to only 4 kW.

But the prodigal squandering of reserves typified in the big coal-fired power stations which deliver only one-fifth of the heat extracted in the form of "useful heat" to homes and industry, must stop sooner or later.

Ted Schoeters

Wysepowers for Reliable Generation.



Up to 750 KVA Diesel. Base load. Mains failure. Auto synchronisation. Wysepowers Ltd. Tel: Gamlingay 0767 50011.

Earth Leakage Protection Units for use with Stand-by Generators and for Site protection



F.D.B. Electrical Limited introduce the introduction of a range of Earth Leakage protection units for use with stand-by Generators. These units have the following features: E.L.P.U. and earth leakage protection on 1.P. & 3.P. systems. Arrangements for cut-off and trip-off and torque switch. Individual alarm notification are included. The illustrations is typical of the FDB1 (Benzine FDB300) range, and full technical detail can be obtained on request.



Findlay Durham & Brodie Electrical Limited, Ryedale Mills, Trading Estate, Wimborne, Dorset DT11 8LJ, Telephone 01-668-4621, 110 Lines, Telex 813493.

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The inverter people
EMERSON ELECTRIC INDUSTRIAL CONTROLS LIMITED
Elgin Drive, Swindon, SN2 6DX Tel: 0793 24121 Te: 449101

In the U.K. there are 67 manufacturers of diesel powered generating sets...

Only one can help you in 22 time and money saving ways.

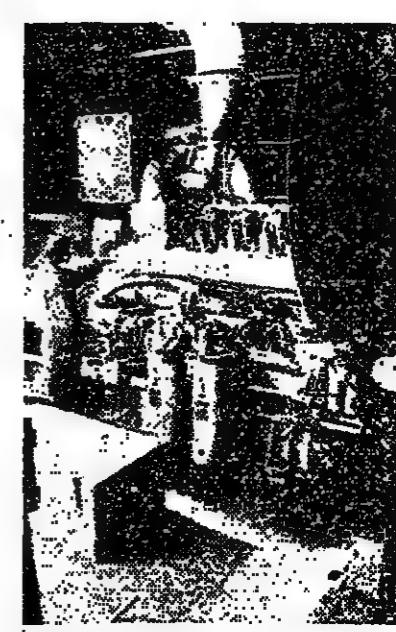
Check this list against other suppliers.

- 1 A free advisory service on the layout and installation of the generating set.
- 2 A choice of the finest British and European diesel engines specified by Dale to fit output and work-load requirements.
- 3 A selection of alternators from Britain's leading manufacturers built to Dale specifications.
- 4 A control panel that is designed and built by Dale, many using printed circuit boards for absolute reliability.
- 5 An engine and alternator coupling technique that ensures constant precision alignment and ease of maintenance.
- 6 Control panel interiors painted white for easier maintenance and inspection.
- 7 Heavy duty bedplates with machined mountings to give a firm base.
- 8 Thorough testing techniques in a test house acknowledged to be the most sophisticated of any generating set manufacturer in Europe.
- 9 Facilities and experience to manufacture to all world standards.
- 10 Mains failure sets that are designed with a battery charger specifically developed for generating set applications.
- 11 Forty years of electrical and mechanical engineering goes into every Dale generating set...whether 1kVA or 2.5MW.
- 12 After-sales service and maintenance available in over 80 countries through a network of Dale agents—many trained by Dale in their Yorkshire factories.
- 13 Full guarantee for 12 months.
- 14 Immediate spare parts service, either direct from Dale or our local agent.
- 15 A design team allocated to every non-standard order.
- 16 Full and accurate drawings service included in the price.
- 17 UK delivery by our own transport, or overseas through the Shipping Department at Dale. We arrange everything—sailing times, documentation, Even finance if you require.
- 18 Free survey of proposed site for generating set installation with advice on exhaust outlets, fuel tank position, access for maintenance and many other factors.
- 19 Planning service that helps you specify the most suitable equipment for each application—standard model or special method of starting.
- 20 An installation service internationally. Dale engineers can install anywhere in the world—or we can send a supervisory engineer to work with a local team.
- 21 A personal guarantee of workmanship and dependability from the Chairman of the Dale Company.
- 22 In short, a generating set planned, designed and built by specialists.

With Dale you get the whole package. Phone, write or telex.

Dale Electric of Great Britain Ltd, Electricity Buildings, Filey, Yorks, YO14 9PJ, UK. Tel: 0723-814161, Telex 52163, Grams: Dalelectric Filey.

Dale Electric Skandinavika AB, Västra Hisingen 14, 214 58 Malmö, Sweden.



One Dale installation a 1000 kVA standby set supplying emergency power to a Reckitt & Colman factory.

It's got to be DALE generating sets built by specialists.

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So do we! You never know when you are going to need a generator—so be prepared. Atalanta offer a wide range with diesel or petrol engines to suit most industrial requirements.

Delivery and prices are well worth looking at. Simply send for our colour brochure to-day—no obligation—and we will be pleased to advise.



Generators from
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ATALANTA Engineering Ltd, Hanworth Trading Estate, Hanworth Lane, Chertsey, Surrey KT16 8JX. Telephone CHERTSEY 62565. Telex 881253 GENTLJMP CHERTSEY.

STANDBY POWER II

According to reliable sources, Lister sell the most power plant.

By definition, the majority of people who acquire their own power sources are sensitive to reliability. That's why they're attracted to Lister generating sets.

As a result, we have probably sold more power plants world-wide than anyone else; so when there's a mains failure, or even no mains at all, it's mostly us that keep things going.

That's a reliable fact.



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Hawker Siddeley Group supplies mechanical, electrical and aerospace equipment with world-wide sales and service

THE 1973-74 POWER STRUGGLE. Towards one end of the scale sets. Engines may be down and the three-day week made are the failures that can spoil rated for standby (that is intended) duty to save money, managerial thinking. Instead of ripples that quickly died down there were tidal waves of activity following that national convulsion important and unexpected lessons were learned, but the most obvious and direct consequence was an increased awareness of vulnerability to interruptions in the national power supply.

Standby capacity began to be acquired with a new sense of urgency, and the amount available has very nearly doubled since 1973. This is a ratio that emerges from Business Monitor M11, a survey published last month by HMSO. The purpose of the survey was to discover to what extent and in what ways firms safeguard themselves against breaks. Those approached included most manufacturing companies in Britain with 20 or more employees, and the Department of Energy had an 80 per cent. response. It turned out that 21.5 per cent. had standby generating plant, with total capacity amounting to 1.55 GVA. This is a substantial figure, representing over a quarter of the companies' total peak demand on the national supply.

There are degrees of safeguarding. A standby power plant may be required for anything from convenience to vital necessity. Between these extremes are reserve powers on an ascending but rather hazily resolved scale of importance.

There are also qualities of safeguarding. If mains supplies fail may not matter in some circumstances if there is a hiatus before the standby set assumes full responsibility. But there are circumstances in which the merest flicker could signal disaster. And finally there are quantities of safeguarding—the amounts of power that can be supplied, and the periods of time over which the supplies can be sustained.

These are easy generalities. A few practical instances will indicate what a broad variety of cases the manufacturers of standby equipment have to cater for.

Where there is so much variety the valuation of the degrees, qualities and quantities of safeguarding in terms of pounds and pence must be specific to each case, and must depend on factors of differing tangibility. The loss of something such as production, for example, is attributable to a power cut, may be assessable in accounting terms, but it is more difficult to arrive at book entries for losses of momentum, morale or goodwill. Proper weighing of costs may well dictate that the demand should be allowed to exceed the supply, at least in some cases of breakdown. And for a dispassionate weighing of those costs, to choose between the equally disproportionately inconsistent claims of each department, it may well be worth hiring an outside consultant.

Gross standby power is obtainable from engine-driven generators. Where piston engines are the prime movers they are likely to be diesels. Standby equipment have to cater for.

Engines may be down for national electricity at peak periods, and are avoided by substituting power from the company's own resources. At Drinick these consist of a 7.5 MW and a 5 MW steam turbo-alternator, and now the Crossley-Pielstick diesel-alternator set which replaces the previous 5 MW turbo-alternator. There is also a 3 MW gas turbine set at Bugle.

charges made for national electricity at peak periods are when the mains fail.

The general principle of standby is to feed the load with power, not direct from the mains, but from an alternator driven by an electric motor that is supplied from the mains. Then, if the mains power fails, the short-term source of energy is drawn upon to drive the motor.

An example of an up-to-date unit developed by Contant Electronics in conjunction with another company. The unit is for use with a diesel-generator set; it is a version of Contant's recently-launched VA-series inverter, which converts the 24 V

dc from a battery or rectifier into 240 V ac at 500 W. Teamed up with a diesel-generator set, it can save fuel by taking over automatically when the load drops below 400 W, as it may do at night, when only lighting, clocks and the like need power.

(While the diesel-generator set is on duty, it of course recharges the batteries.)

Capacity

One turbo-alternator, the diesel-alternator set and the gas-turbine set provide basic and peak capacity. The standby duty is to protect the workings when heavy rain might otherwise flood the pits and cause serious damage to plant. At 5 MW, this diesel-alternator set is above-average-powered for a standby, but it does justify itself economically.

Such big sets are permanently installed, but there are fair-sized sets, either diesel- or gas-turbine-driven, that can be transported on a trailer, or on skids. Small petrol-engined sets are even more mobile.

Some power breakdowns only require manual changeover from mains to standby plant. Other cases call for automatic operation, to effect a smooth and speedy transition, with very little lag in the acceptance of the load by the standby generator. Yet other cases—and the computer that blinks at even half a cycle's interruption in supply is a good example—demand something superior even to that: the "no-break" set or "uninterruptible power supply."

An uninterruptible supply is expected to provide power instantly, however unforeseen the loss of mains power. It is expected to go on providing for as long as power is necessary. To bridge the gap, while the load is being shifted from one power supply to the other, a short-term source of energy is to be tapped. One such source is the venerable flywheel. A static inverter equipment has some obvious advantages, such as less

supply unfinishing.

There are also two main ways of using batteries as short-term sources. A battery can be kept charged by a small generator

interposed between the mains and a d.c. motor. The motor drives the alternator that supplies power to the load. If the mains fail the battery starts discharging and feeds the motor, continuing as long as its capacity permits.

To provide for protracted failures, there may be a standby diesel-generator set. This can be connected to the charger and be supplying current in a fraction of a minute.

But instead of a d.c. motor driving an alternator to supply power, it is possible to use a static inverter, which converts d.c. into a.c. without invoking the aid of any moving machinery. Again, a diesel-generator set may be used to provide long-term power. Static inverter equipment has some

consumption is reduced because the diesel-generator set is not required to produce power at low efficiency, as it does when feeding light loads, but works only at or near its full rated output when the cost per watt is minimal.

Contant reports that one such

standby unit has been tried out

by a member of the public

living in a forest area where no mains electricity supply is available.

He has found that the automatic switching on or off

of his 4kVA diesel-generator set, depending on the electrical gear

in use at any particular time, has saved him over 25 per cent.

in diesel fuel consumption. His

electricity consumption is such

that the saving in money terms

amounts to at least £80 a year

and his inverter will have paid

for itself in less than four years.

That is one reason for the man

to sleep quieter at night: the

other is that the engine no

longer disturbs his nocturnal peace.

Arthur Conway

Harnessing the power of the wind

"BY THE END of the century" wind speeds of around 25 mph—that is, for exposed coastal or mountain areas, if reading this will still be actively working then, so that when they read that by the year 2,000 total per cent. of energy consumed in the U.S. will come from wind power, the next question in their minds must be: "And what is Britain doing about it?"

The answer is the usual one—that there are around in the U.K. a number of brilliant ideas which given the proper backing

will be world beaters. But as ever alas, leadership from those organisations which have the money and could promote them to secure a world market is absent, generally because they lack the spur of competition which is the driving force in business and industry.

Ten per cent. of energy consumption is a vast figure for the U.S.; in British terms it would represent perhaps an installed capacity to be set up over the next 25 years of 12,000MW. And a 5MW windmill, built to present technology, would probably be an awesome multi-rotor giant—a 300kW unit in Canada has a 180-foot tower and rotor to match. So multiplying by five . . .

Estimate

To get a feeling for the problem, it is important to look at what estimators think wind power stations would cost. The most recent figure for "cells" of 200kW wind plants built on a mass production basis is £300 per kW installed. It is a Danish estimate and is based on several years' operation of a wind plant of the same size and breaks down into 35 per cent. for the blades, 20 per cent. for the tower, 20 per cent. for mechanical and 20 per cent. for the electrical section, the remaining 5 per cent. being allocated to site and ground investigation.

Nuclear power plant cost estimates run from £220 to £375 per kW installed and oil plant from £150 to £230. Any industrialist interested in power problems will immediately shrug, so perhaps a more realistic assessment is a break-even table based on 1975 oil prices. This shows that a £300 per kW unit just breaks even with oil at that level but that the device could cost £450 per kW with oil up 50 per cent. on 1975 and 35 per cent. and 20 per cent. £600 at double that level of total costs—and some reduction in mechanical costs, which

are again 30 per cent. of the project, also ERDA-funded, that

are right they could eventually help to top off, say, a quarter

of 60 per cent. of total cost

or 15 per cent. of the £200 per

kw-installed notional figure for

at wind speeds of 22 mph and

a wind generator.

To continue along these lines

would be to commit the same

unforgivable sin as the nuclear

power enthusiasts who, when

Calder Hall began to take shape

were promising a bemused

public huge amounts of atomic

kilowatt hours at a mere half

penny a unit, or a decimal 0.2p.

It would therefore appear

that a case can already be made

out for wind power, provided a

national (or European) effort is

launched with the whole-hearted

backing of the DoE and the Generating Board.

Already private industry is offering U.S. home owners wind power installations to provide a basic 5kW at a price of £1,500, plus the necessary battery storage to make the system feasible. This sounds enormous, but since the equipment would have a minimum 20 years' life (most of it much more) it would be fairer to compare it use as a prototype for a \$1m. windmill design to produce 120 kW from 111-foot blades.

Larger still will be the 1.5 MW crossarm so that as wind speed

are again 30 per cent. of the project, also ERDA-funded, that

are right they could eventually help to top off, say, a quarter

of 60 per cent. of total cost

or 15 per cent. of the £200 per

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Calder Hall began to take shape

were promising a bemused

public huge amounts of atomic

kilowatt hours at a mere half

penny a unit, or a decimal 0.2p.

It will be the largest windmill ever built: the tower alone

will be 180 ft tall, topped by a

further 200 ft of blade structure.

Conservatism will

only add further \$2.5m, so this

is a great

investment.

It will be reached

in a great

number of years.

It will be reached

in a great

number of years.

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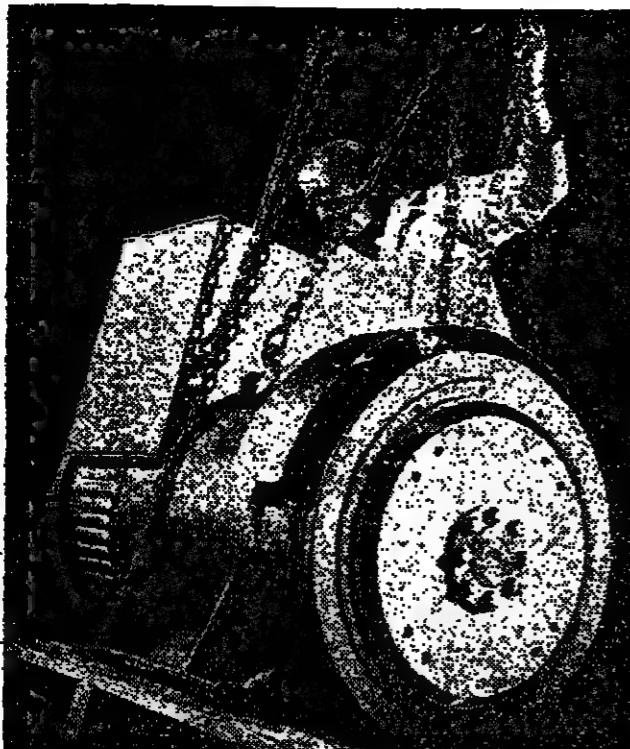
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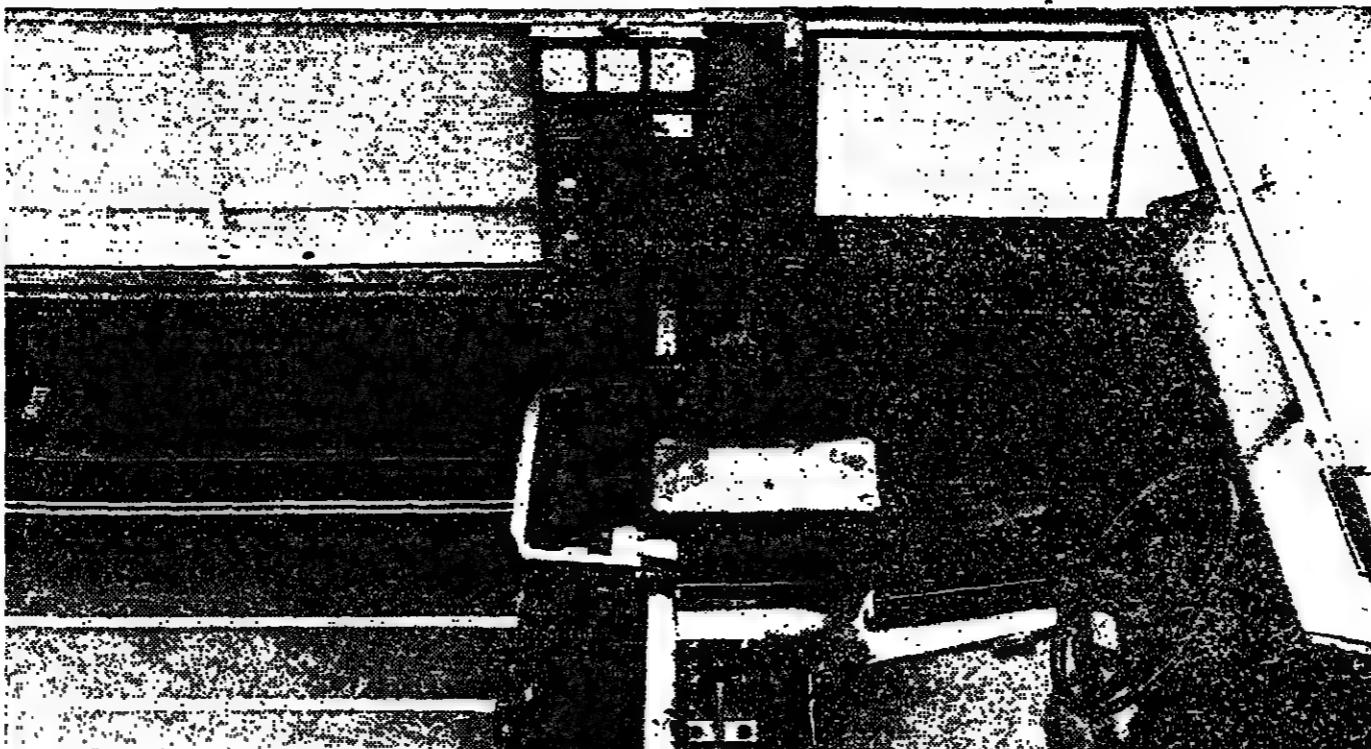
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STANDBY POWER III



An AC434 generator, produced by Neisse Engineers Electrical Division, used for standby power in telecommunications, computer installations, lighthouses and hospitals. Pictured right is the Transpower converted Landrover, which places an Allan 7.5 or 10 KVA generator in the centre of the vehicle.



Honda generators will stand by you.

Your insurance against power failure is to own your own Honda Portable Stand-by Generator like the ED100 (illustrated below). It's light and no larger than a tool box and will provide ample power for all domestic appliances which operate up to

Stand-by Generators will provide continuity of power supply for all equipment requiring electricity up to 1000 watts (see ED100 mobile model illustrated below). All Honda Generators are weather resistant and are powered by Honda's reliable 4-stroke Long Life easy-start engines.

For industrial and commercial premises there is a range which provides AC outputs up to 2,000 watts, enough to keep office accounting machines, electric typewriters, etc. up and running during a power crisis. For contractor's plans and essential services, Honda portable

500 watts AC. Fuel requirement about 10 hours running on 1 gallon - that's Honda economy.

HONDA
HONDA (U.K.) LTD., Power Products Division, Power Road, Chiswick, London W.4.

For further information contact your nearest Honda distributor.

Sun energy and its storage

DER PRESENT economic energy beam which a huge gas satellite in a geo-stationary orbit 22,000 miles up would shortly go up and cost over price increases making project to a collector dish on earth.

This satellite which is under study by Arthur D. Little, would require 1/4 square mile of solar cells and, after turning the electricity from these cells into a microwave beam, need a collector about half a mile in diameter on the ground at which to aim this beam.

All this may have sounded quite impossible when first mooted in 1968. Since the recent roll-out of the "space shuttle," the establishment of a solar space station has come a long step closer.

Much nearer to earth, however, is a Honeywell/ERDA "power tower" project in which banks of mirrors will focus the sun on a boiler to produce steam and drive a turbine. Linked with the proposal, in which about 85m. is being invested, is an investigation of how heat can be stored so that the boiler can be run at periods when sun power is insufficient.

Examined

One solution to be examined is the use in a heat bank of mixtures of fluorides, which not only store three times the heat in the same volume as conventional materials, but also store it at much higher temperatures, the surrounding ground. Philips is the prime developer of these eutectic mixtures of fluorides which, for once, are inexpensive by-products of industrial processes.

Significant for the private user is the sudden flurry of activity over the past year or so to turn sun energy so in the announcements of developments and new products

most ambitious has been in solar cell devices to convert sun energy directly into an electric current, without passing through the steam cycle.

The U.S. Government has just disclosed that costs of such

cells have dropped by a quarter in the last six months.

Ferranti, Mullard and Photron Controls, among others, have announced packages which can already be justified in navigation beacons and remote meteorological and TV stations, but also possibly for caravans and boats.

The Ferranti MST100, for instance, provides 1.7 watts into a 6V battery system from 20 solar cells, has a long working life and no maintenance while costing £80 per module. Mullard's offering is a 468 x 365 x 15 mm. sub panel with 34 cells and providing 10.7 watts.

But solar cells are still an expensive way of capturing sunlight, so a great deal of work is being done on mass production and increased efficiency. Varian Associates, for instance, has reported a 1,000-times increase in power output from its gallium arsenide cells, compared with existing solar reflector and a semiconductor material which appears in sensitive to temperatures around the 200°C mark.

Caltech's Jet Propulsion Laboratory is working along similar lines and has claimed 15 per cent. conversion efficiency for gallium arsenide cells. Please has claimed even better efficiencies for its cells. North Sea oil rigs are being provided with solar power units and a French company is selling solar-powered pumps into the arid countries with the rule of thumb that one square metre of panel provides enough electricity to pump 1,000 cubic metres of water a year.

Like windmills of the conventional type, banks of solar cells will require to be pointed con-

siderably towards the sun by pay-off both in large area generation and in plants and homes.

A particularly elegant solution of this sun-following problem was

explained recently by Standard Telecommunications Laboratory of Harlow. The device itself looks very like a tray full of large eyeballs in which the "pupils" are the solar cells.

The spheres are made of plastics and float in a water-filled lens formed in each sphere

and concentrates sunlight on a gallium arsenide cell. The power goes to collector bars and residual heat is absorbed by the water.

To keep the eye looking straight at the sun the designers have placed four petal-shaped gas reservoirs around it and if the concentrated beam moves off the cell and is focused on a reservoir, it will expand and move a small magnet attached to it. This reacts with a permanent magnetic field around the back and to push the eyeball into the most favourable position for power generation.

Chloride Group in the U.K. is the main protagonist of the former, with the backing of the Electricity Council, and is so well advanced with this type of unit which weighs for weight provides roughly three times the power of lead-acid, that a demonstration of battery modules is expected towards the end of the year.

The group is not aiming at a demonstration of laboratory gear, however. The commercial exploitation and manufacturing problems are also being solved.

It's main rival, zinc-chloride, is a U.S. idea resulting partly from the rejection of lithium chloride as too difficult though it is a more powerful couple even than sodium-sulphur.

Apparently more complex than the latter, it reacts chlorine hydrate with zinc to produce water, power and zinc chloride. On charging, chlorine bubbles off as the zinc plates onto an electrode and the gas is absorbed in water to form the hydrate again. Oxy Metal Finishing Corp. is the developer.

It would be wrong to dismiss the other contenders summarily, particularly as ASE's molten

salt

battery

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ARMING AND RAW MATERIALS

USSR
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SHINGTOM, Sept. 22.
IET cotton crop this
year 12.8m. bales do-
on favourable weather
id. October compared
year's 12m. bales and
record of 12.9m. bales
ton team reports.
eam, comprising U.S.
re Department officials
industry representatives
from three-week
the U.S.S.R.
that early frost and
which could lower the
to around 12.4m. bales
and said Soviet officials
cotton production will
to increase in the
primarily to keep up
ng domestic needs.
1975-77 cotton crop
at 350,000 bales
the weather remains
ough October, a U.S.
re Department des-
on Lagos reports.
75-76 crop is officially
at 320,000 bales, about
t higher than was fore-
er.

ve to help
k' jute
ls in India

K. Sharma
NEW DELHI, Sept. 22.
TAN Government has
appointed a team to make an
of the problems of the
industry has recommended
the industrial houses with
in the jute business
asked to take over the
lute mills.
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d by the Government
Commerce Minister D.
opadhyay, has said that
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would be announced next
The announcement will
th jute and textile mills
have similar problems
lescence and high costs
tion.
Minister said measures
so being considered for
the minimum support
raw jute farmers.

TINUM

NUBURG PLATINUM
of South Africa will
minimum price of
from £103 to £106 per
ounce to-day. It's selling
Johnson Matthey, an-
d in London yesterday.
minimum palladium price
to £23.5 per Troy ounce
July 1976, lithium £17.8
11, and rhodium £26.5
11. Dollar prices are
bound for the U.S.

Record world wheat harvest expected

BY PETER BULLEN

A RECORD WORLD wheat crop will be harvested this season, the International Wheat Council forecast yesterday.

For the second successive month the IWC raised its estimate of the 1976 world harvest. It now puts the figure at between 358m. and 396m. tonnes, compared with the August estimate of 375m. to 387m. tonnes.

The mid-point of the range, 391m. tonnes, is considerably above the ten-year trend for 1968-70. 370.4m. tonnes and is a huge 37.8m. tonnes above last year's crop. Even the existing record of 367.9m. tonnes set in 1973 is likely to be surpassed by 1976, a comfortable margin of 6 per cent. or 23.1m. tonnes.

"Food grain stocks in India, which amounted to about 8m. tonnes at the end of July, 1976, are expected to have risen to 16m. by the end of July, 1976, and are currently planned to increase to 22m. tonnes by 1978,"

Earlier, AZ-Dow Jones reported from Washington that there will be unrestricted production of grains and cotton in the U.S. next year according to Mr. Earl Butz, the Agriculture Secretary.

The absence of an official "set-aside" programme for crop growing land in 1977 typified an agricultural policy of full production—"the policy of plenty," he added.

U.S. move hits sugar prices

BY OUR COMMODITIES STAFF

THE TREBLING of the U.S. sugar import duty to 1875 cents a pound brought varying reactions from sugar producing nations and led to a sharp fall in world prices yesterday.

The move, which President Ford said was "a first temporary step" to aid domestic producers whose prices have fallen below production costs, was most sharply criticised by South Africa, which has threatened halting shipments to the U.S. if the duty cannot be recovered, reports our Johannesburg correspondent.

The threat came from the export manager of the South African Sugar Association, Mr. Norman Chatterton, who said he did not foresee any difficulty in placing the sugar elsewhere if the right price is not obtained from the U.S. He added that the industry would lose \$400 million on an 18,000 ton cargo now at sea bound for the U.S.

At present the South African industry supplies about 120,000 tonnes of sugar a year to the U.S. market, up from 80,000 tonnes last year to 186,000 tons. So far this season, the U.S. has taken 62,000 tons of South African sugar.

South Africa currently exports 380,000 tons of sugar to Japan and Canada under long standing arrangements.

Among the other major suppliers from the U.S. move will be the Latin American exporting countries for whom the U.S. is a major market. One Lima trader said yesterday that the measure seemed totally negative. He added that almost Peru's estimated 370,000-tonne 1976 crop had been exported to the U.S.

This was the case yesterday with the December position on the London terminal market falling 11.75 to a new contract low of £124.125 a ton. Some London traders said they could not see what direct effect the

move would have on the market.

On completion St. Lawrence \$10 Oct. U.S. North Pacific to Hamburg \$3.50 in Sept. Oct. and November to Paris \$2.25.

NEW PILBARA iron ore developments worth nearly \$400m. over the next two years were announced here by West Australian Premier, Sir Charles Court.

The announcement followed talks between he and the Minister for Industrial Development, Mr. Andrew Mensaros, and senior managing director of Nippon Steel, Mr. Saburo Tanabe, who arrived in Perth last night with a steel mission from Japan.

"This is the beginning of a new era of iron ore development in Western Australia involving an important new form of secondary processing on a large scale for the first time," said Sir Charles.

The Japanese emphasised they have not given up the idea of new mines being developed.

This, however, implies higher costs in which not only the Japanese have to participate, but also the West Australian Government, he added.

Reuter

Backing for U.S. coffee promotion

MONTE CARLO, Sept. 22.
THE U.S. Coffee Council will recommend the industry to support a campaign to boost coffee consumption. Mr. George Boecklin, president of the U.S. National Coffee Association, told a coffee symposium here. The decision was taken last week following a test series of television commercials, he added.

Mr. Boecklin said it is important to promote consumption so that coffee can be sold in sufficient quantity to prevent another drastic lapse in world prices when production increases again.

The Council is recommending that the U.S. industry should put up \$4.5m. This would be matched by another \$4.5m. contributed by coffee producing countries through the International Coffee Organisation promotion board.

The final decision on the campaign will be taken early in 1977 to launch a national advertising programme in the U.S. next September, Mr. Boecklin said.

In the test area, coffee consumption rose 12.7 per cent. in the 16 to 25 age bracket. The average increase for all ages was a significant 3.5 per cent. Mr. Boecklin said, adding that in the season just ended there was a net decrease of 155,000 bales.

The Corporation now has an increase in national basic coffee consumption of 6.5 per cent. in 1976. This was achieved by the introduction of green coffee in 1977.

Such an increase is

expected to be

achieved by

the introduction of

green coffee in 1977.

Reuter

WOOL MARKETING

New Zealand boasts healthy war chest

BY DAI HAYWARD, WELLINGTON CORRESPONDENT

WITH a healthy \$15m. profit on sales of wool from its stockpile kilo there seems little likelihood of any disastrous sudden slump in prices back to the level where the Corporation would bid and the strata price control scheme buy to maintain the floor price.

Nor is there likely to be much Corporation activity at the international level for one line of wool.

Brokers and buyers criticised this scheme when it was introduced last season, because they did not know the price at which the Corporation would operate. They argued that all bids should be made in the open. This has now been introduced. The Corporation has bid and will buy wool, if there is a sudden drop, but the strata price level can be changed from sale to sale or even from day to day.

The Corporation is undoubtably in a strong position. It played a major role in maintaining New Zealand wool prices during last year's slump and in supplementing the growers income. The mere fact that it was active, bidding and prepared to buy was usually enough to maintain a reasonable price level. Last season the Corporation bid on 90,898 bales, but bought only 25,200.

It also supplemented growers' income by \$5,213,714 paid out on 245,630 bales which did not reach the required price at auction.

With the profit made last season added to its earlier capital, the Wool Marketing Corporation now has a substantial war chest of \$72m.

This is available to maintain a stable and adequate price structure for New Zealand wool and it will certainly be used whenever and wherever the Corporation decides it is needed.

Talks over bale weights 'useful'

MELBOURNE, Sept. 22.

DISCUSSIONS between wool brokers and the Storemen and Packers' Union on the maximum bale weights issue were described to-day as useful.

A spokesman for the Wool Selling Brokers' Employers' Federation said both sides had

agreed to move into the market when it feels it can help the New Zealand wool grower.

The fixed minimum price for

New Zealand wool is 155 cents a

kilo. With prices this season

no less than what is considered

revention price level. This is the

level at which the Corporation

will intervene to keep prices

stable. It does not disclose the

intervention level, but has

agreed the level should be main-

tained for a long period.

The market intervention level

is at providing market sup-

port. The minimum price

scheme ensures the grower gets

no less than what is considered

revention price level. This is the

level at which the Corporation

will intervene to keep prices

stable. It does not disclose the

intervention level, but has

agreed the level should be main-

tained for a long period.

A firm market was reported at

the week's Australian wool sales

at Goulburn, Geelong, Fremantle

and Albany. As usual Japan was

the principal buyer, supported

mainly by Eastern Europe and

Reuter

PRICE CHANGES

Prices per ton unless otherwise stated

Sept. 21 + or - on Month

Sept. 21 + or - on

The Financial Times Thursday September 22 1976

INDUSTRIALS—Continued

INSURANCE

	Stock	Price	+	No.	Div	Yield	1975	1976	Stock	Price	+	No.	Div	Yield	1975	1976	Stock	Price	+	No.	Div	Yield	1975	1976												
1. Match Int. SHK	588	+2	1	167	Ctr	Grp	PE	High	Low	Stock	Price	+	No.	Div	Yield	1975	1976	Stock	Price	+	No.	Div	Yield	1975	1976											
2. P.C. Industries	100	+1	1	100	Ctr	Grp	PE	High	Low	62. Bowring C.T.J.	70	+1	1264	24	3.8	11.6	72	58	Evans Laundry	64	+2	211	21	5.1	14.7	100	101	Starline Inc. Shp	67	+2	675	11	1.1	5.3	27.0	27.0
3. Penn Cent. Gas Co.	100	+1	1	100	Ctr	Grp	PE	High	Low	62. Bremall Rd. Up	36	+1	11.4	2.4	6.7	12.8	118	58	East New Eliz.	125	+2	325	11	1.1	5.3	34.2	34.2									
4. Balfour Beatty Up	100	+1	1	100	Ctr	Grp	PE	High	Low	62. British Am. Ins.	73	+1	7.47	2.7	9.3	11.2	118	58	Easton Corp. Shp	125	+2	325	11	1.1	5.3	34.2	34.2									
5. British Gas Corp.	100	+1	1	100	Ctr	Grp	PE	High	Low	62. British Gas Corp.	59	+1	1.4	0.1	0.7	1.5	100	58	Easton Corp. Shp	125	+2	325	11	1.1	5.3	34.2	34.2									
6. British Gas Corp.	100	+1	1	100	Ctr	Grp	PE	High	Low	62. British Gas Corp.	59	+1	1.4	0.1	0.7	1.5	100	58	Easton Corp. Shp	125	+2	325	11	1.1	5.3	34.2	34.2									
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12. British Gas Corp.	100	+1	1	100	Ctr	Grp	PE	High	Low	62. British Gas Corp.	59	+1	1.4	0.1	0.7	1.5	100	58	Easton Corp. Shp	125	+2	325	11	1.1	5.3	34.2	34.2									
13. British Gas Corp.	100	+1	1	100	Ctr	Grp	PE	High	Low	62. British Gas Corp.	59	+1	1.4	0.1	0.7	1.5	100	58	Easton Corp. Shp	125	+2	325	11	1.1	5.3	34.2	34.2									
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16. British Gas Corp.	100	+1	1	100	Ctr	Grp	PE	High	Low	62. British Gas Corp.	59	+1	1.4	0.1	0.7	1.5	100	58	Easton Corp. Shp	125	+2	325	11	1.1	5.3	34.2	34.2									
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18. British Gas Corp.	100	+1	1	100	Ctr	Grp	PE	High	Low	62. British Gas Corp.	59	+1	1.4	0.1	0.7	1.5	100	58	Easton Corp. Shp	125	+2	325	11	1.1	5.3	34.2	34.2									
19. British Gas Corp.	100	+1	1	100	Ctr	Grp	PE	High	Low	62. British Gas Corp.	59	+1	1.4	0.1	0.7	1.5	100	58	Easton Corp. Shp	125	+2	325	11	1.1	5.3	34.2	34.2									
20. British Gas Corp.	100	+1	1	100	Ctr	Grp	PE	High	Low	62. British Gas Corp.	59	+1	1.4	0.1	0.7	1.5	100	58	Easton Corp. Shp	125	+2	325	11	1.1	5.3	34.2	34.2									
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33. British Gas Corp.	100	+1	1	100	Ctr																															

Reactor decision left to Government

BY ROY HODSON

THE ROYAL Commission on go ahead with a commercial fast breeder reactor which would generate about 1,200 megawatts of power and would cost the Britain should embark upon a country anything between £200m. and £250m. according to the most extreme estimates bandied about during the argument.

Existing U.K. reactors burn uranium. The proposed fast breeder reactor would actually make more plutonium than it uses as fuel. The U.K. Atomic Energy Authority's intention is that it should be the standard reactor design after the present thermal nuclear stations.

Experience

Sir Brian Flowers, chairman of the commission during the preparation of the report Nuclear Power and the Environment published yesterday told a Press conference that members of the commission had widely differing views on aspects of the subject. However, they were unanimous on certain points central to the issue as follows:

1: Britain's nuclear safety and control arrangements must be made adequate to look after any nuclear programme sanctioned by Government;

2: Satisfactory methods must be found of disposing of nuclear waste;

3: Although it was not yet established that fast breeder reactors were as safe as the present generation of reactors, the commission believed that it was "plausible" that they would be so;

4: While all the problems surrounding the future development of nuclear power were being sorted out, it would be "unwise" to put too much reliance as a nation upon nuclear power.

The commission lays stress, in its report, on the dangers of terrorists hijacking plutonium and making "a crude but effective weapon" and warns also of the problem of disposing of radioactive waste.

The United Kingdom Atomic Energy Authority is anxious to that it was up to the Govern-

ment to decide the issue.

"What we are saying is that if, for heaven's sake, you do decide to go ahead with such a reactor, then do not treat it as a commercial reactor."

The commission comes out strongly against Britain moving straight into the commercial generation of power by the fast reactor through an order now for a station which could be in

states that the economic implications of delaying the fast to cause lung cancer when plutonium, which is believed to be scattered by conventional terrorist bombs, and it would be quite possible for terrorist bombs, and it would be quite possible to construct nuclear bombs to be constructed.

A new high level independent body is recommended to advise the Government on energy strategy.

Inadequate attention, in the commission's opinion, has been given to the question of managing the disposal of nuclear waste by both the U.K. Atomic Energy Authority and the processing company, British Nuclear Fuels.

The report recommends that a Nuclear Waste Disposal Corporation should be set up, and the possibility of burying processed waste in rock, or beneath the ocean bed, examined in detail.

The Environment Secretary should assume responsibility for managing nuclear waste aided by a Nuclear Waste Management Advisory Committee.

Whitehall sources said last night that a Government decision on whether to build Britain's first commercial fast breeder reactor had been put back at least two months by the publication of the Flowers Commission's report.

Meanwhile, fast reactor technology is to be exchanged between Britain and the U.S. under a new agreement signed yesterday at Germantown, Maryland.

Sixth Report of the Royal Commission on Environmental Pollution, Nuclear Power and the Environment, Stationery Office, 22s.6d.

A clever bid, Page 20

production within ten years, with nuclear fusion but it has not yet proved to be a source

that if the Government does not work, it will unlock limitless supplies of energy from matter.

The Commission says it is not convinced that the Government has realised the full implications of terrorist hijacking of plutonium. At present, the risk of hijacking of the dangerous substance was small. But if fast breeder reactors were developed, there would be some 350m. tonnes of plutonium by the year 2000 in Britain alone, and 10 times as much by the year 2030.

Plutonium carried grave implications for mankind and the country should not rely on processes that produced it unless there was no reasonable alternative. However, the commission

U.S. TV-makers demand curbs on Japanese imports

BY STEWART FLEMING

LEADING CONCERN in the U.S. about the unprecedented surge in Japanese colour television imports over the past year has caused leading television manufacturers to petition the U.S. Government's International Trade Commission to impose quotas.

Television manufacturers and trade unions connected with the industry urged the Commission to-day to recommend to the President that quotas be imposed. Otherwise, they said, the domestic colour television industry "faces extinction."

The Commission will investigate the situation and make recommendations to the White House. If a majority of the six members of the Commission agree, the President will have to impose quotas. He can also act unilaterally to impose quotas if there is no majority either way.

Among the companies filing the petition is one of the largest in the industry, General Telephone and Electronics Corporation.

Investors to meet Fraser over £4m. loan row

BY MARGARET REID

AN INFORMAL committee of leading institutional investors will meet Sir Hugh Fraser, chairman of Scottish and Universal Investments, this morning, to discuss the controversy over the £4.2m. loan recently written off and directors' share dealings.

The committee is headed by Mr. Lawrence Jones, of the Save and Prosper unit trust group, who is chairman of the City's Institutional Shareholders' Committee. It wants to discuss how the loan, to a company in which Sir Hugh has interests, came to be brought in as a cash deposit in the company's 1975 accounts and why this was not disclosed earlier.

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Weather

U.K. TO-DAY
Occasional rain. Wind light variable, becoming moderate or fresh. S. Max 17C (63F). London, S.E. N.E. England, Lakes, Anglia, Borders, N.W. England, Dundee, S.W. Scotland, Glasgow, Argyl.

Rain or showers. Wind S.E. light or moderate. Max 14 to 17C (57 to 63F). Cent. S. S.W. England, S. Wales, Channel Isles. Becoming cloudy, rain spread.

BUSINESS CENTRES

Yester-day
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Outlook: Showers and bright intervals, rain in S.W.

Lightning: London 19.27, Manchester 19.35, Glasgow 19.44, Belfast 19.51.

HOLIDAY RESORTS

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Continued from Page 1

Seamen's pay deal

Department of Employment, pay

policy leaders and the union

with their counterparts at the TUC. No further vesting of the claim is expected.

Industry yesterday generally

declined formal comment on the

deal, partly for fear of encour-

aging unions to follow it up. But

there was little doubt that em-

ployers are deeply concerned at

the possible ramifications both

in terms of a breach in the spirit

of wage restraint and in the par-

ticular concessions which could

be used as a precedent in their

own negotiations.

The personnel director of one

large engineering company said

his unions had expressed a

desire to meet management to

discuss detailed implications.

Another commented: "The im-

portant thing about the social

contract to date is that unions have

generally not attempted to

Plutonium, which is believed to cause lung cancer when inhaled in small quantities, could be scattered by conventional terrorist bombs, and it would be quite possible for terrorist bombs, and it would be quite possible to construct nuclear bombs to be constructed.

A new high level independent body is recommended to advise the Government on energy strategy.

The Government's funding programme, dormant for so long, is rapidly getting under way again. Yesterday the short tap Treasury 94 per cent. 1981 became rapidly exhausted after being reactivated at 889, nearly 3 points below the last price at which it was supplied: estimates of the amount bought yesterday ranged between £150m. and £200m. Meanwhile rumour had it that application forms were running low for to-morrow's offer of the new long tap Treasury 144 per cent. 1984, and certainly a very large subscription can be expected for a stock which is now looking distinctly cheap against a reinvigorated market. For the moment sterling's continuing flight—it fell 26s. higher at 252m. yesterday, and for the year as a whole could get close to 25m. and 24.8m. last time and 210.1m.

has risen over 5 per cent. since last Thursday. And the apparent victory of Wall Street over the market this year could emerge as a half an eye to the chances further earnings progress in 1977.

Trading at home remains exciting for Laporte's business group is meeting with the demand from outside the U.K. and as a result is still coming on target for a strong recovery in profits during 1977.

RTZ

RTZ's half-year earnings are up from £16m. to £22.9m., which is more or less exactly what might have been expected from the published figures of its main interests. In particular, its attributable share in Cominco Riotinto of Australia has jumped from £2.6m. to over £6m. on the back of a sharp turn-round in lead and zinc production, higher shipments of iron ore, and a 37 per cent. increase in average LME copper prices (to £734 per tonne).

Currency gains explain about a fifth of the overall earnings gain, and the other point worth

recording is that Anglesay

Aluminium has actually made a small profit.

Copper prices and production

ought to be on a favourable

trend for RTZ over the rest of

1976 and 1977, with Palabora's output expected to be over a quarter higher by next March.

And the longer term possibilities of Hamersley Iron are underlined by the latest

Japanese offer; although no price details are given, capacity is being increased substantially.

On the question that really

matters, however, RTZ has nothing to say. The Rossing

nuclear project made no contribution to the first half figures, and is still being commissioned.

Some analysts believe that it

could contribute roughly a tenth of group earnings in the

current half year, and a substantially higher proportion

in the second half of 1977, by which

we have certainly seen a dramatic change of sentiment

within a week, fully shared by

equities where the F.T. Index

is up 10 per cent. and is just

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